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ABSTRACT

Five studies focus on the cultural components of population issues in Thailand, Jamaica, Korea, Kenya, and Indonesia. The reports explore the influence of cultural factors on contraceptive practice, family planning, abortion, and education. Recommendations are made for policymakers in areas that impinge on population growth. "Birth Control among Postpartum Thai Women" discusses factors affecting the nonacceptance of the pill, IUD, and tubal ligation by rural Thai women at the postpartum period. "Fertility-Related Behavior in Jamaica" deals with psychocultural aspects of contraceptive behavior in Jamaica. Strong native beliefs which reinforce early pregnancy and childbearing are a problem to government-sponsored family planning campaigns. In "Attitudes toward Induced Abortion in Korea," the investigators measure the impact on attitudes and practices toward induced abortion of passage of a law liberalizing abortion. "Population Studies in Kenyan Secondary Schools" is an examination of student and teacher awareness of population trends and their attitudes toward population and development policies. "Women in Jakarta: Family Life and Family Planning" explores factors affecting childbearing patterns and use of contraception among middle-class urban women in the capital of Indonesia. (Author/AV)

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Cultural Factors And Population In Developing Countries

Occasional Monograph Series
Number Six

ICP Work Agreement Reports

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INTERDISCIPLINARY COMMUNICATIONS PROGRAM
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2

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Cultural Factors And Population In Developing Countries

Occasional Monograph Series
Number Six

ICP Work Agreement Reports

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investigators new to the field but with demonstrated relevant competence, innovative approaches, and promise as nuclei of new population dynamics groups in less-developed and developing countries.

Out of a total of 317 proposals from all over the world, 52 were selected for support by a careful and thorough process which included both internal Interdisciplinary Communications Program (ICP) evaluation and peer review. In each case, a judgment was made as to whether the results would be useful in the formulation of workable Third World population policies and translatable into national commitments to viable action programs. No project was funded for more than $50,000—the average was less than $24,000. Most were for a period of one year or less.

The work agreements were tailored to individual situations, with the hope that a flexible approach would reduce the administrative burden at both ends and still maintain an essential degree of responsiveness. In addition, whenever an investigator undertook work in a country other than his own, it was required that a host country national be involved as a contact and professional collaborator. This requirement was intended to help ensure the relevance and suitability of the study to local conditions, correct interpretations of observations, and the practical application of results.

These investigators were not selected and then left to work in a vacuum. Other elements of the IPPA were designed specifically to maintain communications channels which, by making information from the Program available promptly and in usable form, linked these investigators to each other, to colleagues in related areas, and to the population community at large. These elements included continuous monitoring and assistance by the ICP professional staff and, when appropriate, participation in one or more of the sixteen IPPA workshop/seminars, six of which were held in Third World countries. Work agreement investigators, together with others on the IPPA mailing list of more than 4500 names, received semi-annual annotated bibliographies on selected population topics and *Population Dynamics Quarterly (PDQ)*, the IPPA newsletter with worldwide circulation. A number of investigators were first made aware of the IPPA through *PDQ*, and articles by many of them have appeared in its pages.

Even now, as the Program is being concluded, it is difficult to assess accurately the effects of the IPPA experiment—and it was an experiment in the fullest sense of the word. During the past four years, it has been shown that a great deal of unrecognized talent exists, that it can be reached by well-designed techniques, and that it can be productive. New approaches and perceptions have evolved. For example, the increasingly popular concept of population impact analysis grew largely from IPPA's concern with developmental determinants of fertility in selected countries.

Foreword

This volume, one of a series of ten occasional monographs, contains some of the results reported by investigators who have studied population-related topics during the past several years as participants in the International Program for Population Analysis (IPPA).

The principal objective of the IPPA has been to broaden the base of knowledge and understanding of population dynamics by generating a new capability in analysis and evaluation, primarily in less developed and developing countries, for use by governments who wish to develop adequate population policies. One of the approaches to this objective has been the offer of modest work agreements (subcontracts) to qualified individuals who wished to work in population dynamics, especially investigators new to the field who were without major professional or financial support from other sources, and who showed promise of emerging as leaders and innovators in the exploration of contemporary population concerns.

At the inception of the Program in 1972, it seemed reasonable to believe that a considerable reservoir of talent had been untapped, that many individual population scholars and other social scientists throughout the world were isolated from the mainstream of knowledge in the field by distance, geography, culture, and lack of established affiliations. It was surmised that these scholars held, or could acquire at modest cost, many of the pieces of the immense puzzle that must ultimately be assembled.

During the past four years, the IPPA has attempted to mobilize some of this dispersed and often neglected talent. Emphasis was placed on goal-directed work oriented toward applications to practical nation- or region-specific population problems. The initiative for individual projects came both from ICP staff suggestions and from investigators' unsolicited proposals.

Proposals from scholars already engaged in population research were given full consideration; but particular attention was paid to applications from

In compiling this book and its companion volumes, no attempt has been made to reproduce the complete reports submitted by the investigators. To varying degrees, the reports have been edited, condensed, and sometimes rearranged in format. In some instances, highly specialized terminology has been changed to make the material more readable by a diverse and multidisciplinary audience. Hopefully, these editorial liberties—made necessary by constraints of space and money—have not obliterated the essential flavor of the reports or obscured their principal findings. ICP assumes full responsibility for any changes made in the original manuscripts, since stringent time limitations have made it impossible to return the modified versions to the authors for review. Readers who wish additional information on any of these reports are encouraged to contact the authors directly.

Four years is a short time in which to devise and implement an undertaking of this diversity, let alone evaluate its long-term contribution to the solution of a problem of such magnitude. We hope the contents of this volume and the others in this series will be interesting and informative to a wide variety of readers with eclectic viewpoints. More importantly, we hope these first efforts will serve as a pattern and a source of encouragement for future efforts, and that the network of interpersonal contacts which has been established will continue to flourish.

M. C. Shelesnyak
Director
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Introduction

This volume contains five studies which focus on the cultural components of population issues in the developing countries of Thailand, Jamaica, Korea, Kenya, and Indonesia. Although these countries are at different stages of development, their government officials and planners all share a concern over rapid population growth. Implicit in the papers in this monograph is the message that once a country decides to embark on a program to limit population growth, the cultural values, attitudes, and beliefs of the people affected by these programs ought to be considered.

The reports in this volume explore the influence of cultural factors on such population issues as contraceptive practice, family planning; abortion, and education in developing societies. They are addressed mainly to policymakers, to whom they offer recommendations and suggestions in areas that impinge on population growth. However, the reports should also be of interest to anyone concerned with the sociocultural aspects of the population problem in developihg societies.

Cultural factors related to population include the motivational aspects of reproductive behavior—in particular the institutionalized social norms which determine in large measure the number of children people have. The authors do not claim that such cultural factors are the most important ones affecting population growth, nor is an attempt made to determine their relative weight. However, it is hoped that these studies will contribute to an understanding of the "cultural side" of the population issue. To ignore cultural factors may well retard efforts to reduce population growth. To take them into account may help make population planning more realistic, and thus, more effective.

The first report by Supannatas focuses on Thailand, a highly rural country with a population of 42 million and a swelling population growth rate of 2.5

percent per year. Even though birth rates have fallen since the Thai Government approved voluntary family planning as a national policy in 1970, at the present rate of increase the population will double in 28 years. Supannatas's study on birth control among postpartum Thai women suggests some of the reasons why the current population policy of Thailand—to reduce the population growth rate by supporting family planning—may not be effective even though the policy is politically and philosophically acceptable to the Thai people. Large-scale effective use of contraceptives does not automatically take place just because the contraceptives are made available. Indeed, at present, Thai women wish to space rather than limit the number of births, and children are valued for themselves and for the help they can give parents in old age. In cultures similar to Thailand, a reciprocal obligation holds that parents take care of children when they are young, and children take care of parents when they are old. Contraceptive use is affected by large ideal family size, a desire to have children of both sexes, and male predominance. The author points out that the National Family Planning Program of Thailand must be aware of, and ready to act on, all factors governing the behavior it wishes to change. In particular, attention should be focused on the role of the husband. Throughout Asia, Africa, and Latin America, the woman is subordinate to the male in many areas of decision-making. In Thailand, traditionally as well as legally, husbands are still considered "superior" to wives. For this reason, a strengthened family planning program in Thailand should involve the husband in family planning activities.

The second piece in the monograph, by Brody, Ottey, and La Granade, deals with psychocultural aspects of contraceptive behavior in Jamaica. This small but densely populated Caribbean country has had a National Family Planning Program since 1966 and a Family Planning Board (a policy formulation body appointed by the Ministry of Health) since 1968. However, the authors emphasize that simply recognizing the problem of unwanted and excessive childbearing, and making family planning services available, is not enough if a reduction in the population growth rate is the goal. The data in this paper suggest that the impact of a Jamaica government-sponsored family planning campaign may be diminished by a powerful system of values, beliefs, and attitudes which reinforce early pregnancy and childbearing. Recognizing the futility of overly ambitious and unrealistic approaches and objectives, the authors present a number of policy recommendations limited "to what appears feasible and capable of implementation." These recommendations take into account prevailing values and belief systems, and involve approaches congruent with local circumstances and with national goals that can be embraced by the population as a whole.

The third contribution in this monograph is a report by Jon and associates on the impact of the 1973 Maternal and Child Health Law on induced abor-

tion in South Korea. Although South Korea has made important advances during the past decade in slowing population growth and accelerating economic development, it is widely recognized that prolongation of the present population growth rate of 2.0 percent per year would make it difficult to achieve the national target of reduction of the population growth rate to 1 percent by 1980. Jon's study of the Maternal and Child Health Law illustrates the gap between official policy and cultural reality. Although induced abortion in Korea is now permitted only in limited circumstances, before the law was passed, it could be used only to save the mother's life. The new law widened the legal justification for induced abortion, but the authors' survey of married women of childbearing age, medical doctors, prosecutors, and family planning workers shows that the law has little impact on dampening the practice of abortion because it is not in keeping with the knowledge, attitudes, and beliefs of the population. The authors emphasize, therefore, that policies and legislation should consider attitudes of the people if the policymakers' actions are not to become futile exercises. Furthermore, the findings suggest that policymakers seriously consider amending the Maternal and Child Health Law to include socioeconomic factors under which abortion may be legal—not as an alternative to family planning but because of contraceptive failure—so that the gap between legislation and reality may be closed. Such an amendment is now being considered in official circles in South Korea.

The fourth report in this monograph deals with population studies in the secondary schools of Kenya. The author, Horsley, offers some guidelines for developing adequate population training and education materials. In general, population education in developing countries focuses on the individual and the family. This study is significant because it departs from that traditional approach to population education (that is, family planning education, sex education, et cetera), with the authors suggesting that the definition of population education be broadened to include influences within the community and the society; in this way, students could achieve an understanding of the relationship between cultural issues and population issues. As the author emphasizes, the study does not constitute population socialization research (that is, how individuals develop ideas and behaviors related to population processes) but, rather, probes the attitudes and ideas of students over which educators may have some influence. The authors further emphasize that any population education program, just as any learning process, must begin where the learner is, taking into account the individual's physical and cultural environment, as well as his interests, knowledge, and values. This paper is particularly relevant in the African context where one commonly held view is that population growth per se is not a problem and that only rapid economic and social development can create the conditions nec-

essary for fertility reduction. The study is also significant because it contains specific recommendations for educational policy and implementation. Central to these recommendations is an integrated problem-solving approach which permits Kenyan students to examine demographic aspects in their own communities where the consequences of population growth are most recognizable. As the author states, "As long as students can be helped to relate specific population variables to an analysis of the problems they themselves identify as important, the schools' responsibility will be met."

The fifth and final report by Papanek and associates explores some factors affecting childbearing patterns and use of contraception among middle-class urban women in Jakarta, the capital of Indonesia. The nation is a high fertility country whose 131.9 million people make it the most populous country in Southeast Asia and the fifth most populous in the world. The impact on fertility of age, socioeconomic status, education, employment, ethnicity, and religion is examined. Indonesia's family planning efforts face serious obstacles posed by traditional behavior patterns which include widespread preference for large families of four to five children. The authors emphasize that family life and "family harmony" are central values in Indonesia and that family harmony is implicitly equated with a certain family size. Consequently, in seeking to reduce the number of children in the family, family planning activities may, in fact, be altering the traditional family balance. The authors argue that such activities should not be undertaken without understanding how a fertility reduction may be achieved without threatening existing values. In addition, some practical suggestions are offered for planned attitude change through family planning while recognizing the traditions, values, beliefs, and attitudes of the society and using accepted and valued institutions as family planning support groups.

Clearly, the provision of adequate contraception and family planning services is of paramount importance for controlling the growth rate of any population. It is doubtful, however, that these services alone can do the job. Even though no country has yet mounted a highly efficient and massive family planning campaign, efforts in many areas of the world suggest that either the motivation to limit family size is not strong enough or is restrained by even stronger cultural counter pressures. Keeping in mind the exploratory nature of the contributions included in this monograph, policymakers, scholars, and readers in general, will find the reports of interest because they illustrate the role played by cultural components in population size and the importance of taking these components into account when formulating effective policy approaches to the population problem.

Amparo Menendez Carrion
ICP Social Scientist

Birth Control Among Postpartum Thai Women

Somjit Supannatas

Abstract

The study concerns factors affecting the non-acceptance of a birth control method, specifically the pill, the IUD, and tubal ligation, by rural Thai women at the postpartum period. The investigators conclude that a successful postpartum family planning program must include men in the target group, give high priority to low parity women, provide one-to-one educational programs, and grow in an atmosphere where all sectors of society encourage couples to limit family size.

In 1974, the population of Thailand was estimated to be 37.4 million, with a rate of increase of 3.0 percent, one of the highest in the world. About 85 percent of the Thai people live in rural areas, and surveys, such as the 1969 phase of the National Longitudinal Study of Social, Economic, and Demographic Change, have shown that the women in these rural areas average 6.6 live births at the completion of their childbearing years (Thailand 1972). About 80 percent of the people are farmers, most of them poor, with an average income of about $150 per year (The Population Council 1972). Also, except for Bangkok and provincial capitals, there is only one doctor for approximately 110,000 people. Along with the inadequacy of other health services and facilities, this situation produces an extremely low standard of health.

The government was not sensitive to the population problem until, in 1970, it officially announced the National Population Policy, stating:

Note: ICP social scientist Calman Cohen helped prepare this paper for publication. Correspondence to Dr. Supannatas should be directed to the Department of Health Education, Faculty of Public Health, Mahidol University, Bangkok, Thailand.

> It is the policy of the Thai government to support voluntary family planning in order to help to resolve various problems related to the very high rate of the population growth, which constitutes an important obstacle to the economic and social development of Thailand. (Thailand 1972)

Family planning services had been available to the people several years before the government evolved a NFPP (National Family Planning Program). In 1966, the Population Council initiated the International Postpartum Family Planning Program with twenty-five hospitals in fourteen participating countries, including Thailand with four Bangkok hospitals at first and, since 1969, with 15 hospitals and MCH (Maternal and Child Health) centers. By January 1971, the postpartum program included 112 hospitals and had nearly 600,000 acceptors (Forrest 1971).

The concept of providing a family planning service in the postpartum period assumes that informing and educating women in a hospital setting is highly effective since they are likely to accept the service at that time (Taylor 1965, Zatuchni 1970, Levin 1970, Forrest 1971). Also, providing the service as a part of a maternal and child health program is more practical, economical, and effective (Berelson 1970, Zatuchni 1970, Economic Commission for Asia and Far East 1966). Results of the International Postpartum Family Planning Program are impressive compared to other family planning programs: An increase in the number of acceptors, a rising acceptance rate, and a lowering of the birth rate of acceptors (Forrest 1971).

The Postpartum Family Planning Program in Thailand has been cited as one of the most successful in the international group. By November 30, 1971 a total of 99,434 women had accepted family planning services within three months of delivery or abortion (Rosenfield et al. 1971). However, many indicators suggested that the major objective of the country's NFPP, which aimed to reduce the population growth rate from over 3.0 percent to about 2.5 percent by the end of 1976, would be difficult to achieve.

First, the overall direct acceptance rate for the postpartum family planning program from the beginning through to 1971 was about 19 percent; the other women were indirect acceptors and nonacceptors who could well become pregnant again before they are persuaded to use contraceptive methods.

Second, although 82 percent of all acceptors chose the IUD or the pill, 50 percent of the IUD users stopped using the device at the end of the third year and about half of the pill users stopped taking it at the end of the second year (Rosenfield and Varakamin 1972). The main reason for discontinuance of these methods was a desire for pregnancy. Apparently, women chose to use the IUD or pill rather than undergo tubal ligation because they wished to

space their children rather than limit the number of births. Hence, these women did not help to reduce population growth.

Third, the median number of living children of the acceptors was 3.2, implying that women who had fewer than three children were unlikely to practice contraception.

Fourth, although the 1969 National Longitudinal Survey of Rural Thai Women revealed that the overwhelming majority who have three or four children wished to stop bearing children, the proportion of these women who practiced contraception was very low irrespective of the number of children they already had (Thailand 1972). Other studies have indicated that some women did not accept a contraceptive method because they distrusted it, desired a pregnancy, or a relative objected (Zatuchni 1970).

Finally, in Thai culture, traditionally as well as legally, the husband is deemed superior to the wife. For example, a woman who wants to have a tubal ligation must obtain written consent from her husband, but if he wishes to have a vasectomy, his wife's consent is not necessary. Yet, although men play a dominant role in the family, no phase of the postpartum family planning program involves or addresses them. Many women who might otherwise accept a contraceptive method from the program may be deterred from doing so by their husbands' objections.

Merely instituting a policy supporting family planning programs and providing contraceptive methods does not automatically ensure that people will use them. In a worldwide survey by IPPF (International Planned Parenthood Federation) of family planning services established as of 1971, about 70 percent of an estimated 500 million women who did not want an additional pregnancy were not practicing contraception (Robbins 1973). As the Population Council pointed out: "If we are to understand the pattern of family planning practice within a community and hence to predict future trends or to decide where government activities should be directed, we have to know who is not practicing family planning as well as who is." (The Population Council 1970, p. 5)

What are the real reasons for nonacceptance? Do the family planning researchers get all the facts? Are all factors relevant to nonacceptance of a birth control method included in the studies? And what can be done about the problem of nonacceptance?

HYPOTHESES

The study reported in this paper was concerned with factors affecting the nonacceptance of a contraceptive method, specifically the pill, the IUD, and tubal ligation among rural Thai married women who came to deliver their second child at the MCH center at Khon Kaen in Northeast Thailand during 1972-1974. The investigator attempted to determine some psychological,

social, and cultural factors affecting the nonacceptance of selected birth control methods and to discover what factors influence acceptance. The investigator also sought to learn whether and to what extent the husband influenced the wife's decision to accept or not accept a contraceptive method.

Underlying this study were four general hypotheses and twelve specific hypotheses. The general hypotheses stated that there would be agreement of the responses between the partners regarding the pill, IUD, and tubal ligation and other related variables; that is, the couples who agreed to accept a method would respond positively. The couples who did not accept a method would respond negatively. When the responses of the couples were not consistent, the husband's responses would prevail.

The specific hypotheses stated that the nonacceptance of the pill or IUD or tubal ligation would be affected by: Beliefs in the negative consequences of using a method, unfavorable attitudes, lack of interest, desire for child labor, desire for support and to be taken care of in later life, husband's objection or belief that husband would object to contraception, husband's dominant role and authority in the family, favorable attitudes toward a third child, lack of anticipation of the problems of having three children, large ideal family size, obtaining information about the negative side effects of a method or belief in these effects, and the desire to have children of both sexes.

METHOD

The MCH center at Khon Kaen had been offering the postpartum family planning service since March 1969. By 1970 it had the second largest number of family planning acceptors in Thailand, or an average of almost 500 new acceptors per month, second only to the Chulalongkorn hospital in Bangkok (Rosenfield and Varakamin 1972). The Khon Kaen center is one of five MCH centers under the Family Health Division, Department of Medical and Health Services, Ministry of Public Health. In 1974, it had eight physicians, two dentists, one pharmacist, one health educator, thirteen public health nurses, twenty registered nurses, fifty-five midwives, and other auxiliary personnel.

The sample for this study, chosen by random selection, was 197 couples (394 subjects) dividied into two groups: 97 couples for the acceptance group and 100 couples for the nonacceptance group. Women who lived within the city area were excluded from the population; the large majority lived in rural areas within about a 50-mile radius and a small percentage lived still farther, within a 80-mile radius. In all, the sample came from 13 districts, 54 communes, and 118 villages.

The assumption was made that the sample had been exposed to family

planning information and received all the maternal and child health services from the center in the same pattern, regardless of the year of the delivery, an assumption reinforced by the MCH staff responsible for the postpartum family planning program. Most often, family planning information was provided by the midwifery students under the supervision of a nurse and, on some occasions, by a nurse. Information was given to the patients both individually and as a group and, in addition, was broadcast through a tape recording system into loudspeakers in every room and hallway of the building.

The method of gathering information from the sample was the interview schedule. Interviewers, who were health education or public health nurses, were recruited from many institutions in Khon Kaen Province: School of Nursing, Khon Kaen University, the MCH center, Malaria Eradication Center, and the Trachoma Control Center. Initially there were 17 interviewers, but later, the number dropped to 12.

Since all interviewers were also government employees, they could only work part time on weekdays and full time on weekends, covering a large area of about 5,175 square miles and using a variety of means of transportation. The interviewers worked in pairs, a female interviewer for the wives and a male for the husbands; the time consumed by each interview ranged from a half-hour to an hour.

Many precautions were taken to ensure confidentiality of the information collected from the sample and to guard against misuse of results. All the information provided by the sample in Thailand was brought back to the United States where the answers were coded on IBM cards for computation and only the author has access to the names of the interviewees.

A total of 96 questions comprised the interview schedule and included the 12 specific hypotheses presented earlier.

Behavioral theories utilized were Rosenberg's (1960) stimuli, attitudes, and behavior model; Fishbein's (1972) behavioral intention model; and Lewin's (1951) life space concepts.

To achieve consistency and reliability of the measurements in this study, multiple questions were used to test the same independent variables, attitudes, beliefs, a desire for child labor, and so on. Another precaution taken was to pretest the interview schedule twice before developing the final form. From an item analysis of the first pretest, the consistency of the independent variables (as measured by the Pearson correlation) ranged widely from insignificant difference to highly significant difference ($p < .001$). Afterwards, the low correlation items were eliminated from the final form. In addition, the interviewers were instructed to follow strictly the directions given them to make certain that respondents were all asked the same question in the same manner.

Determining the reliability of the dependent variables (the acceptance and the nonacceptance of a birth control method) required less complicated procedures. The patient's file was checked to see whether or not the woman had accepted a contraceptive method; in every instance, the women in both groups gave answers corresponding to the records. Nevertheless, it was surprising to discover that the husbands of two women did not know their wives had used an IUD.

In the present study, time was limited, the sample was scattered, the cost of hiring the interviewers was expensive, and funds were minimal. Under the circumstances, the reliability of the data was as high as one could expect.

FINDINGS

The data consisted of information obtained from four groups, namely: the acceptance group (the women who accepted a birth control method); the nonacceptance group (the women who did not accept a birth control method); the acceptors' husbands' group; and the nonacceptors' husbands' group. Within the acceptance group, there are three subgroups: acceptors of the pill, IUD, and tubal ligation. The acceptors' husbands group is also divided into three corresponding subgroups.

The results revealed no significant differences between the two wives' groups and none between the two husbands' groups with respect to education, occupation, age, income, sex and age of the first two children, marital history, knowledge of birth control methods, and sources of information about birth control methods. However, when these variables were cross-tabulated by other independent variables such as attitudes toward contraceptive methods, interest, ideal family size, perception of the spouse's role and authority, and so on, significant differences did appear when the two wives' groups were compared and again when the two husbands' groups were compared.

While the majority of all the interviewees are farmers or gardeners, the number of husbands who work for the government is considerably larger than the number of wives who do. Almost one-fourth of the acceptors' husbands are government employees and none of the men in either group is in the "do not work" category.

As to education, the majority of the sample completed grade four with only a few women going as high as grade 12 or beyond. Overall, there was no difference in the educational levels of the acceptors and the nonacceptors or between their husbands except that more of the acceptors' husbands reached the highest level (higher than grade 12).

With respect to the age of the women, the results indicated that belief in the positive consequences of a tubal ligation increases with age. Only half of

the youngest women, age 19 or over, have positive views; the proportion gradually increases, reaching 91.3 percent among women ages 30-34.

Age of the acceptors' and nonacceptors' group also affects other variables such as attitudes toward an IUD, obtaining information about the negative side effects of the pill and tubal ligation or belief in their ill effects, as well as knowledge of the birth control methods, but has no strong impact on fertility.

The results indicated that income affects such variables as attitudes toward a tubal ligation, intention to have a third child in the next three years, and knowledge about birth control methods. In addition, women in higher income brackets were less favorable toward tubal ligation than women whose family incomes were lower. The data suggest that women whose family income was less than 5,000 Bahts (approximately US $1=20.50 Bahts) per year were most favorable toward tubal ligation; women whose family income was 6,000-7,999 Bahts per year were least favorable.

When the sex of the first two children was taken into consideration, it appeared that approximately 53 percent of the women whose first two children were female believed in the negative consequences of using the pills compared to 21 percent whose first two children were male and female. Where the first two children were males, the percentage of women who believed in the positive consequences was smaller than the percentage of the women whose first two children were female.

The sex of the first two children also affected the number of children wanted: 39.3 percent of the women whose first two children were male and female want to have three or more children; 50 percent and 61.3 percent of the women whose first two children were female and male, respectively, wanted to have three or more. Similar responses were found concerning the intention to have children in the next three years. The majority of women (69.8 percent) who have children of both sexes indicated they intended to have one child in the next three years, while 87.5 percent of the women who had only female children had the same intention. At the same time, 95 percent of the women who had only male children also intended to have one child in the next three years. In summary, more women who had children of the same sex intended to have more children than women who had children of both sexes.

The data show that the more methods of birth control the women know, the more interest they had in the pill, IUD, and tubal ligation. About 65 percent of the women who had never used any birth control method expressed interest in the three methods, whereas 90 percent of the women who had used at least one method in the past showed interest.

Knowledge of the pill, IUD, and tubal ligation among the husbands' groups equalled that of the wives. Approximately 94 percent of each hus-

bands' group knew about these three methods, and about 70 percent of each group knew about vasectomy. The condom was the only method which more of the acceptors' husbands knew about than did the nonacceptors' husbands. Both groups knew virtually nothing about foam, cream and jelly and this was true of the wives' groups, as well.

Asked about their main sources of information about birth control methods, the majority of wives and husbands cited doctors or health personnel. Neighbors, persons who were using a birth control method, and the radio were their secondary sources. The two husbands' groups mentioned radio or television and newspapers or printed materials as their sources of information more often than did their wives.

Although among the Thai people, it is generally understood that husbands dominate decisionmaking in the family, it has not been clear whether this dominance extends to the wife's use of a birth control method. The results of this study reveal that both groups of husbands believed that the final decision as to the wives' acceptance or nonacceptance of a birth control method should rest not with their wives but with them. Unfavorable attitudes toward birth control methods, disinterest in them, and disapproval of their wives' use of them is significantly more prevalent among husbands of nonacceptors than of acceptors. But there is no significant difference between husbands of acceptors and nonacceptors in holding that their wives do not have the right to decide whether or not to practice contraception.

Female nonacceptors of a birth control method appeared to be in accord and viewed their role as subordinate to that of their husbands, but acceptors tended to regard the decision to use contraception as their own rather than their husbands'. In other words, the decision to use or not use a birth control method may depend on who is really the boss in the family.

Although the data demonstrate that the majority of the two groups believed that using the pill or IUD or tubal ligation after having two children would have positive rather than negative effects upon themselves and their families, a difference in degree of conviction asserted itself; the acceptors strongly believed this while the nonacceptors believed only somewhat, or half-heartedly, in the positive consequences.

In spite of the recognition by both groups that having three children created problems of support and education, they still favored having three children. The nonacceptors were strongly favorable while the acceptors were somewhat favorable. When the women were asked about the number of children they would like to have to complete their families, the response of the two groups was precisely the same; the average number of children they considered to be ideal was 3.4.

Previous studies in Thailand have indicated that the ideal size for a Thai

family is about 4.0 (The Population Council 1972). Some encouragement might be taken from the reduction we found in the ideal family size.

Both the acceptors' and the nonacceptors' husbands were in accord in their desire for child labor. They wanted their children, when they grow up, to help them work and make money for the family. In addition, they wanted and, indeed, expected their children to take care of them in later life.

In summary, as anticipated, the nonacceptors' husbands have influenced nonacceptance of the pill, IUD, or tubal ligation by their wives. Their attitudes and opinions toward birth control methods and other family planning considerations were found to be even more negative than those of their wives. By and large, the nonacceptor couples' responses to the dependent variables associated with birth control methods and family planning differed from the acceptor couples' views. Even though the differences between the wives' groups and the husbands' groups on many variables were not significant, the trend of the differences was noticeable and in the expected direction.

CONCLUSION

While discussion of the relevance and applications of the findings focused on population policy and family planning programs in Thailand, it may well have significance for other countries similarly situated. In this section, we do not propose to single out any mistakes of existing family planning programs in Thailand for criticism but, rather, to illustrate some points which may have been overlooked and to make suggestions for strengthening future programs.

This study has demonstrated that the majority of acceptors of birth control methods (60.2 percent) do so for the purpose of spacing births rather than limiting them. Moreover, about 22 percent of the pill and IUD acceptors indicated that they wanted to have four or more children, with an even higher percentage for nonacceptors and the husbands of both groups of women. Given these findings, the family planning program needs to make an extraordinary effort to approach the low parity group as its top priority target.

Moreover, important gaps exist in the dissemination of information. Although the majority of acceptors were fully aware of the existence of family planning services, they knew little about specific birth control methods and the advantages, disadvantages, and side effects of each. Access to family planning information is extremely limited once the women leave the MCH center and return to their rural villages where their only resources are a mobile health education unit which visits once or twice a year and a general health education program on the local radio station.

One should not be confused by the responses of the couples who indicated that almost all knew about the pill, IUD, and tubal ligation. Their knowledge was superficial and they had not committed themselves to practicing contraception. Using the concepts of adoption of innovation (Rogers 1962) for analogy, it appears that only the first stage, the awareness stage, has been developed.

Educational programs should go beyond those already provided by the MCH center where information given to the women as a large group is of doubtful efficacy. More individual counseling, while the women are hospitalized, by adequate and qualified personnel at the center, would be more effective.

Practically speaking, the contribution of Thai males to the reduction of the population growth rate is nil. In the past five years, few vasectomies were performed at the MCH center at Khon Kaen. Moreover, Thai men not only fail to accept modern contraceptive methods but also do not practice traditional methods (Rosenfield 1971, Population Council 1972). In the course of this study, indications were that less than 10 percent of the husbands of both acceptors and nonacceptors had any experience in using any birth control method except a condom and then, only once or a few times.

The finding that the majority of husbands in both groups felt that more than three children was the ideal family size indicates that the actual family probably will be larger—most likely four or five children—before their wives cease childbearing. An objective of the NFPP is to inform and motivate eligible women to use contraception, but no substantial effort has been made to involve the husbands. Seen in this light, the discouraging responses obtained from the husbands are not surprising. To reverse the unfavorable reactions of Thai males, a well-planned educational program for them, carried out simultaneously with family planning services, is essential.

An educational program in family planning does not mean handing out information through mass media channels as at present. A program which becomes an integral part of existing community organizations concerned with such projects as rural health development and community development, would be particularly successful in reaching rural people whose seasonal farm work makes them available for recruitment.

Today, as this study has shown, child labor is strongly favored by a majority of husbands and wives. If the government adopts a program which assures the security of old people and relieves them of the fear of abandonment, it may help substitute for the wish for many children to help make a living for the family and to support their parents in later life.

In contradiction of Thailand's population policy, the government currently provides a small subsidy for every child a family has, as well as other

benefits for the large family. The amount of money is not sizeable enough to encourage couples to have many children, but neither does it motivate them to have fewer children. Will not some form of bonus or privilege for a small family help provide an incentive to practice birth control? The results of these incentives used in many other countries such as India, Pakistan, and Ghana are encouraging (Rogers 1971a, Rogers 1971b, Perkin 1970).

The current service fees charged at the MCH center are 20 Bahts for IUD (approximately 20.50 Bahts = US $1), 250 Bahts for tubal ligation, and 150 Bahts for vasectomy. Few respondents knew that service fees could be waived if they did not have the money. For example, a few nonacceptors indicated a desire for tubal ligation but were unable to pay for the service and did not apply for it. Would not the reduction of the service fees impel more people to accept contraception?

In conclusion, the population policy of Thailand in support of voluntary family planning is politically and philosophically acceptable to the Thai people at the present time. But the main objective of the NFPP to reduce the growth rate of the population may not be achieved as the program is now being implemented. Consequently, the program may become inoperative.

To deal with the adverse consequences of a high growth rate, the objectives of the NFPP should be reconsidered. Specifically, certain additional objectives need to be added, namely: Men need to be included in the target group; and the low parity couples should be given top priority among eligible women as the significant recipients. In addition, the educational program as well as the other aspects of community structure will have to confront forcefully all the factors affecting the nonacceptance of a birth control method which this study has identified and discussed. If all these considerations are fully taken into account and acted on, it is reasonable to expect that the family planning program could gain momentum in coping with the population growth rate problem.

Finally, the family planning program, which seeks to motivate married women to use a birth control method, needs substantial support from other aspects of Thai society. It is difficult to project acceptance of a contraceptive method by a majority of Thai rural married women in the next few years without simultaneous developments in education, economics, employment, social welfare, and legislation. For example, legislation restricting a woman's freedom to accept unilaterally a tubal ligation should be modified to facilitate the practice of such contraception among women who want to limit family size.

In summary, all segments of Thai society will have to develop in a way that would encourage and support couples who want to limit the number of their children by using a birth control method. At the same time, these

development programs will have to assure and convince the people that the use of a birth control method to limit family size would redound to their best interests and to their own well-being.

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Fertility-Related Behavior in Jamaica

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Abstract

Clinical interviews of 150 Jamacian women are undertaken to establish the impact of life history variables, such as communication between sexual partners and parental relationships; of socioeconomic variables, and of attitudes on the women's contraceptive and reproductive behavior and their decisions to regulate or not regulate their own fertility. The findings suggest that family education in Jamaica should stress the importance of mother-daughter communication, couple communication, and the self-determination of women.

A major feature of Jamaican society is the existence of a pattern of family life characterized by families headed by mothers and often with multiple fathers, in which legal marriage is more often than not a late life phenomenon. This pattern is not unique to Jamaica and has been described in the literature on West Indian societies (Lowenthal 1972). Research results on fertility-regulating activity behavior in relation to family life in Jamaica may, therefore, be generalized to include larger culture area. No systematic description has been developed of this system of values, beliefs, and attitudes which appears to reinforce the likelihood of early pregnancy and childbearing.

In Jamaica unwanted and excessive childbearing has been recognized for more than a generation as a social problem related to family life. In the late 1940s, Kerr (1952) observed the failure of mothers to give any formal instruc-

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tion about sex or reproduction to their daughters. Clarke (1957) commented on the pattern of strictness in the upbringing of girls; she particularly noted the incongruity of parents punishing their daughters who became pregnant since the daughters had not been told about menstruation or taught to associate it with sexual maturity. Blake (1961), on the basis of a questionnaire administered to 99 Jamaican women and 53 of their mates, found the median age of her female respondents having their first sexual encounter to be 17, with 50 percent of these unions resulting in pregnancy. Two-thirds claimed to have had no prior information about sexual relations or pregnancy. She also noted that at least two-thirds of her respondents of both sexes had never discussed contraceptives with their mates.

Couple communication was also identified as an important variable by Stycos and Back (1964). In the late 1950s when there were only two family planning clinics in Jamaica, they found that when the communication level increased between marital partners there was an increase in the level of actual contraceptive use.

Marked differences between men and women in attitude toward contraception have also been noted. Clarke (1957) observed mutual distrust between sexes in rural areas in the 1940s and 1950s with women inducing abortion by using "bush medicines" and then telling the disapproving men that they had fallen. Although most of Blake's female respondents approved of birth control, most of the males did not; fear of their mate's infidelity was cited as a major reason. Morgan and Stratmann (1971) noted that, under conditions maximizing the likelihood of a positive response, only 40 percent of 1300 Jamaican men said they were currently using contraceptives; 79.4 percent of these relied on the condom, but the authors suspected use was irregular. Jamaica Family Planning Association (1968-1969) reported the most important reason given by women who had agreed to use contraceptives, and did not, to be that their male partners had objected.

The relationship of Jamaican and Caribbean family structure to these problems in childrearing and communication has not been precisely defined. The family system itself is only one aspect of a more complex situation created by colonialism, successive waves of immigration, and a polarized socioeconomic system in which the bulk of people are poor, uninformed, and powerless.

Many students of the Caribbean have observed what Wagley (1957) described as a general lack of community spirit, cohesion, and organization characteristic of plantation America. Mintz (1966), for example, postulated alienation of Caribbean people reflected in the fragility of sexual unions as well as the shallow nature of kinship systems which recognize few relations and rarely act together on issues of common interest. Cohen (1955) noted the lack of trust which extends even to household units in a rural Jamaican

community. Most village couples were unhappy, having entered into marriages for economic security which did not materialize. Husband and wife did not share leisure time. If sexual relations were unsatisfactory, either could seek a new partner without dissolving the household, and with little expectation of community censure.

Lowenthal (1972) reviewed the evidence suggesting that West Indian lower-class families tend to be matrifocal. The centrality of the relationship between mother and daughter under such circumstances could well influence the attitudes of both to men, sex, and reproduction, creating a situation in which mother's needs and wishes outweigh those of a mate. Although the Caribbean-Jamaican ideal is a legally and religiously married conjugal pair as the base of a nuclear family, in reality the lower class is marked by the absence of a strong responsible male member. Depending upon the man's inclinations, age, economic status, and geographic place of work, the conjugal relationship may be 1) visiting, usually with the male coming to the home where the woman and her children reside, 2) common-law, in which the residence is shared, or 3) legally married. Although in some islands there is a somewhat regular sequence of progressing from visiting to married status, this has not been documented for Jamaica.

This reality—in which the man feels little social pressure to be responsible for his mate or the outcome of his sexual activity, and in which the woman has minimal opportunity for autonomy or self-determination—constitutes the interpersonal or family context of lower-class contraceptive use in Jamaica.

METHODOLOGY

We originally proposed to interview 150 women and about as many men in an effort to determine what factors may or may not contribute to the decision to regulate fertility. The women represent three general populations: Early contraceptive users, having had 0 to 2 children prior to use; late users, having had 3 or more children prior to use; and non-users which would include a number of never-users. It was hoped the men would be the current mates of the women studied.

The female subjects included 100 clients at the JFPA clinic in inner-city Kingston and 50 women at the Edna Manley Comprehensive Health Clinic, also in Kingston, which draws on a population of comparable socioeconomic status to that using the JFPA clinic. This was not intended to be a random sample of Jamaican or even Kingston women. Rather it was a group of women who deliberately came to a clinic for birth control measures.

The original plan to interview the male partners of the 150 female respondents was abandoned as being impractical. Instead, it was decided to interview men coming to the JFPA clinic to obtain condoms for themselves or contraceptives for their partners. A total of 283 such men were interviewed.

Clinical interviews with the women were the principal data-gathering method. These interviews were supplemented by various personality evaluation techniques and tests, including Draw-A-Person, Thematic Apperception, and Story Completion. The interviews with the men were less clinical and concentrated on demographic and socioeconomic information.

The basic goal of the project was to identify crucial psychosocial and cultural factors determining early or late contraceptive use, non-use, or ineffective use, and then to use the knowledge to make recommendations for improving the effectiveness of the national family planning program.

After the original tabular data on the 150 female and 283 male respondents were produced, the materials were then recoded and, for the purposes of this report, the most significant items were selected for analysis. Information was gathered on such subjects as 1) family planning knowledge, 2) socioeconomic status indicators, 3) life history, especially with reference to sexual experiences, 4) individual beliefs about self-determination and status of women, and 5) current mental attitude—for example, feelings of shame, anxiety, depression, etcetera. For the sake of brevity, the results have been combined wherever possible. The following is a summary of the overall findings—focusing on the female sample for which much more relevant information was gathered.

FINDINGS

The study was confined to the resident population in Kingston, the major urban area on the island. Except for the 50 women (one-third of the female sample) patients at the Manley Health Center, they were all clients of the JFPA. Thus, as a group, the subjects were perhaps more oriented to modern institutions, more accepting of scientific-technological values, more willing to attempt self-regulation of personal functions and behavior formerly left to nature or chance, more inclined to autonomous-independent behavior rather than group-determined passive behavior, and more aware of themselves as separate entities with potentially achievable needs and wishes than most of their fellow citizens. This seems to be even more true of the male clients than of the females, as suggested by the men's higher level of education, occupational status, housing adequacy, and urban origin. Given the relative sexual and familial freedom granted the Jamaican male and the apparent importance for him of sexual prowess as an affirmation of masculinity and self-worth, this difference would be expected. That is, the male family planning client is more deviant from the mass of Jamaican males than is the female client from the bulk of Jamaican women.

The nature of the sample, then, minimizes the differences sought by the study, that is, psychosocial and cultural differences between early and late contraceptive users as defined by family size. Yet, even within the constraints

posed by the study group, significant differences emerged. These are probably present in much greater degree when the population includes those in nonmanual occupations with secondary or university level education, and those manual workers with less than primary school education.

SES-Modernity

One group of factors differentiates the high contraceptive, low reproductive performance groups in both the male and female population. These factors are summarized as SES (socioeconomic status)-modernity items, and include that combination of elements associated with higher socioeconomic status, experience with modern institutions, acceptance of non-traditional values, and rejection of some traditional values.

With reference to reproductive behavior, numbers of pregnancies and births are positively correlated with the number of men who fathered the subjects' children, number of fewer children wanted (the more they have the fewer they wish they had), age, stability of relationship with current mate, and the receipt of financial support from current mate. Thus, the older the woman and the more stable and supportive her current conjugal relationship, the more pregnancies and live births she is apt to have had. Conversely, negative and significant correlations are shown between high reproductive performance on the one hand, and education, piped water in the dwelling, and literacy, on the other. In other words, the more educated (representing both innate ability and a family background providing adequate resources), and literate (representing ability-achievement), the woman living in a house with basic amenities (an economic index and one also representing achievement), the greater the likelihood that she will have had fewer children.

A series of weaker negative correlations (gamma less than .30, but over .20) between reproductive performance and other factors is also found. These include purposeful contraceptive use (women who try to space or delay children), mate's occupational status (if he is skilled rather than unskilled, his partner tends to have fewer children), and urban place of birth (women born in Kingston have fewer children than those born in small towns or rural areas). Correlations do not appear to be significant between reproductive performance and knowledge of reproductive physiology; place of residence; the consistency of contraceptive use or reliability of the method; a smaller ideal family size; or a positive attitude toward the idea of contraception.

In sum, reproductive performance in Kingston is related to the basic factors of age, education, literacy, basic housing amenities, urban origin, stability of current relationship with a man, the man's occupation, and purposive contraceptive use—but not to reproductive knowledge, reliability of method, or positive attitudes and smaller ideal family size.

Positive attitude toward contraception is also highly correlated with effi-

cient contraceptive performances and with SES and modernity indexes, such as housing adequacy, literacy and education, mate's occupation, and urban place of birth. However, it is not correlated with smaller ideal family size, reproductive performance, or stability of relationship. In other words, although positive contraceptive and modernity attitudes cluster together, this cluster does not predict either a small family ideal or small family performance.

Reliability of method choice, that is, oral versus non-oral contraceptive versus no method, as shown in Table 1, is highly correlated with other indicators of positive contraceptive attitudes and performance and with SES and modernity indexes, including mate's occupational status. It is not correlated with low reproductive performance, small ideal family size, or a stable current type of mate relationship.

The significance of education is explored in Table 2. Significant positive correlations are shown with a complex of factors which should be associated

Table 1
Reliability of Contraceptive Method
in Relation to Selected SES-Modernity Indicators

Independent Variable	Correlational Index (gamma)
Consistency of contraceptive use	.87
Purpose of contraceptive use	.76
Literacy	.45
Education	.38
Urban place of birth	.33
Mate's occupational status	.32
Piped water in house	.30
Number of impregnators	−.23
Number of fewer children wanted	.23
General housing adequacy	.20
Knowledge of reproductive physiology	.19
Financial support from mate	.17
Age	.14
Number of live births	−.10
Smaller ideal family size (0-2, 3-4, 5-8)	.09
Number of pregnancies	−.09
Current relationship type	.01

Table 2
Educational Attainment in Relation to Selected SES-Modernity Indicators

Independent Variable	Correlational Index (gamma)
Knowledge of reproductive physiology	.69
Piped water in house	.61
Purpose of contraceptive use	.60
Number of impregnators	−.55
General housing adequacy	.50
Number of live births	−.50
Number of pregnancies	−.47
Positive attitude to contraception	.46
Age	−.43
Number of fewer children wanted	−.43
Urban place of birth	.39
Reliability of contraceptive method	.38
Smaller ideal family size	.36
Mate's occupational status	.36
Consistency of contraceptive use	.29
Stability of current relationship type	−.24
Financial support from mate	−.20

with effective contraception, reproductive knowledge, purposive contraceptive use, positive attitude toward contraception, choice of a reliable (oral) method, smaller ideal family size, and (weaker) consistency of contraceptive use. Education is also correlated with indicators of SES level and modern values: housing quality, urban birthplace, and mate's occupational status. The negative relation with current relationship stability is probably a function of the negative relation between age (highly correlated with such stability) and education.

Thus, education is most strongly correlated in descending order with 1) positive attitudes toward contraceptive use, 2) early, consistent, effective, reliable, and purposeful (for delaying initial or spacing later pregnancies rather than preventing further pregnancies after several children) contraceptive performance, and 3) low reproductive performance. Besides education, items in this cluster include occupational status of both respondent and mate,

housing (piped water in the dwelling more than general housing type), urban birthplace, and literacy.

While such modernity indicators as knowledge of reproductive physiology and small ideal family size are positively and strongly related to education, they are not significantly correlated with reproductive performance. A number of attitudinal indicators congruent with the SES-modernity constellation also differentiate the high contraceptive-low reproductive performers from their counterparts. Most significant for women is rejection or acceptance of the traditionally central role of grandmother in the family. Most significant for men is rejection or acceptance of the idea that a woman should risk pregnancy to get a husband, and a woman should accept a man's proposal that she "have a baby for him."

Developmental-Biographical

A second group of important policy factors appears to be significant mainly for women. This cluster can be labeled developmental-biographical.

The presence of early sex instruction from parents is an index not only of knowledge but of a degree of openness in family relations. It may, thus, be related to psychologically modern attitudes in the parents. There are negative correlations bordering on significance between this factor (informed by parents) and several indexes of reproductive performance, multiple sexual partnerships, and early onset of sexual activity. In other words, women who did receive sexual instruction during early life from parents had their initial coitus later, had fewer sexual partners, and smaller numbers of pregnancies and children than women who did not receive such instruction. Interestingly, age at first pregnancy was found to be independent of early receipt of sexual information.

The timing of such instruction shows similar relationships with more significantly negative correlations between early instruction (menarchal versus prechildbirth versus never) and client age, number of previous visiting mates, age learned about contraception, and a positive correlation with smaller ideal family size. Further analysis will be necessary to determine the degree to which youthfulness of the respondent is the central point, but it is clear that the younger respondents have had earlier sexual instruction and also tend to prefer smaller families.

Correlations in the opposite direction are present between sexual-reproductive factors and resentment at parental neglect in providing information. For the most part they are considerably higher, especially with high reproductive peformance. Thus, lack of parental information is associated with resentment, but the resentment may be mediated by intervening factors such as the production of babies and, to a lesser degree, multiple sexual relationships. That is, lack of sexual information may lead to unhappy relations with men

and unwanted pregnancies which, in turn, lead to resentment against the non-informative and uncommunicative parents.

A history of parental verbal versus physical discipline is negatively related to reproductive performance; its relation to smaller family size suggests, at least, a relation between ideals and attitudes and this aspect of early family environment.

This is also true for communication with the first sexual partner, a less direct indication of early family environment. Communication at the time of initial coitus is negatively correlated with overall number of visiting mates and positively with the number of additional children wanted (an indication of satisfaction with current procreative status).

A variety of contraceptive practices are correlated with sexual-reproductive history. Reported deliberate non-use of contraception is interesting in that it is negatively correlated with number of impregnators, number of previous visiting mates, and number of abortions. In other words women willing to identify themselves as deliberate non-users, in contrast to those characterized by neglect or indecision, or those who use contraceptives effectively or ineffectively, have a particular set of characteristics: Few mates, few abortions, and a wish for more children. These features suggest a degree of personal stability and probably a high degree of traditionalism. They may also be related to their low degree of reproductive performance. Possibly, they do not use contraceptives because they have learned they are unable to conceive.

Summing up, lack of communication with parents about sexual matters and lack of sexual instruction before puberty are correlated with earlier age at first intercourse, a larger number of male sexual partners and impregnators, and higher overall reproductive performance. Although discipline by verbal rather than physical means during childhood was not directly correlated with any of these items, it seems logical to assume an indirect relation, since physical discipline may preclude free communication about emotionally significant matters. That verbal rather than physical discipline may have characterized more modern family settings is suggested by its positive correlation with smaller ideal family size.

Another interesting correlation, suggesting the possible importance of open communication within the family for a later more satisfactory sexual-procreative life, is the one indicating that poor communication with the initial coital partner is related to having had multiple subsequent sexual relationships. There seems to be a complex of factors related to poor communication within the family of origin, negative ambivalent identifications with maternal figures, and lack of sexual instruction which are related to the likelihood of early coitus, multiple sexual partners, low contraceptive and high reproductive performance in later life.

Communication-Mutuality

The developmental-biographical cluster of factors along with the SES-modernity factors may be related to a third set of items referring to communication and mutuality between mates.

The significance of contraceptive discussion with the mate is explored in Table 3. It is part of a socioeconomic cluster including education, literacy, and a dwelling with piped water. There is no correlation, however, with urban origin and a relatively weak one with mate's occupation. Although the positive correlation with a stable current relationship is weak, it is highly

Table 3
Contraceptive Communication with Mate
in Relation to Selected SES-Modernity Indicators

Independent Variable	Correlational Index (gamma)
Mate agreed with her about contraceptive use	.71
Receives financial support from mate	.51
Positive attitude to contraception	.46
Education	.33
Piped water in house	.33
Smaller ideal family size	.33
Literacy	.28
Consistency of contraceptive use	.26
Current relationship type	.24
Purposeful use of contraceptive	.22
Mate's occupational status	.22
Number of impregnators	.15
Age	.15
Reliability of contraceptive method	.14
Number of pregnancies, 0-2 vs. 3-10	.12
Urban birthplace (vs. town vs. rural)	.10
Knowledge of reproductive physiology	.08
Number of live births	.06
Number of pregnancies	.04
Number fewer children wanted	.04
General housing adequacy	.00

correlated with the receipt of financial support from him. Again, the presence of communication is significantly associated with reported attitudes such as pro-contraceptive use and smaller family ideal, but not to actual reproductive performance. There are weaker positive correlations with some aspects of the intermediate factors related to contraceptive performance such as consistency and purposefulness. Thus, attitudes, contraceptive performance, and reproductive performance emerge as categories showing descending correlations with mate-communication factors.

Table 4 shows that reported agreement about contraceptive use is more powerfully correlated with contraceptive-reproductive behavior than is the report of having simply discussed contraception together. Significant correla-

Table 4
Contraceptive Agreement with Mate
in Relation to Selected SES-Modernity Indicators

Independent Variable	Correlational Index (gamma)
Consistency of contraceptive use	.50
Piped water in house	.42
Purpose of contraceptive use (space/delay, family completed, none/unsure)	.39
Number of impregnators	−.35
Financial support from mate	.34
Mate's occupational status	.34
Positive attitude to idea of contraception	.32
Reliability of contraceptive method	.28
Education	.26
Number fewer children wanted	−.24
Smaller ideal family size	.24
Number of live births	−.20
Knowledge of reproductive physiology	.12
Total number of pregnancies	−.17
Literacy	.07
Urban birthplace (vs. town vs. rural)	.04
Current relationship type	.04
General housing adequacy	.03
Age	.02

tions are present with consistency and purposefulness of use and less so with the choice of a reliable (oral) method. Correlation, though weak, also emerges here with lower reproductive performance. Agreement is also correlated but much more significantly with several indicators of relationship stability and mate's occupational status.

In sum, having discussed contraception with the mate is not significantly and directly related to reproductive performance. It is, however, positively and significantly related to most SES-modernity items, positive attitudes toward contraception, and high contraceptive performance. It is certainly one of the important variables which are part of the path to effective personal fertility control. Agreement with mate about contraceptive use is somewhat more positively related to most of these items, and has a stronger correlation with low reproductive performance. Both are negatively related to number of previous mates and impregnators, a finding consistent with the previously reported tendency of women who make unilateral contraceptive decisions to distrust men because of earlier unstable unions. Supporting this view is the presence of weak but consistent correlations between a woman's reported emotional satisfaction with her current mate and indexes of lower reproductive performance (with a positive and significant correlation with smaller ideal family size).

Communication indicators for the men are also complex (Table not shown). On one hand, discussion with partners of contraceptive practices is positively correlated with higher reproductive performance and larger ideal family size, and negatively correlated with the use of effective contraception prior to their first child. This and similar findings strongly suggest that the male who reports contraceptive communication is telling the interviewer how he has controlled, rather than shared, his mate's contraceptive decisions. On the other hand, the male respondents' projection of a "story heroine's" behavior does suggest an SES-modernity related tendency toward interpersonal flexibility, collaboration, and mutuality in mate relationships which appears to be related to higher contraceptive and lower reproductive performance.

Autonomy-Independence

A fourth set of items for the females emerges as related to higher contraceptive and lower reproductive performance. This may be reasonably labeled as autonomy-independence. It refers to general measures of personal competence, self-awareness and willingness to manage one's own life. In addition to SES-modernity items these include independent responses to sexual-pregnancy problems of the story heroines, the presence of educational-occupational aspirations for themselves and their children, and higher scores on Draw-A-Person tests—the only independent measure of cognitive ability used in the project.

Other Factors

A final point concerns a group of responses where the respondents have neither positive nor negative opinions, and do not behave decisively in either a positive or negative manner. These are "don't know," "don't care," "can't remember," neutral drift, and neglect behaviors. It seems likely that this is a less educated, less literate, less modern (but not necessarily more traditional), less occupationally advanced, and possibly more rural group. The presence of these responses, coupled with the relative failure of questions about the positive or deliberate non-use of contraception to yield significant data, suggest that while the cultural factors promoting early fertility demonstration are present, a positive "culture of motherhood" may be less important in the continuing high fertility rates of the island than a set of historically rooted social conditions which militate against the formation of clearcut attitudes as the basis for decisive self-regulatory action.

In general it would appear that a less educated, less literate, less occupationally advanced woman of more rural-small town background is the modal high reproductive and low contraceptive performance individual. She tends now, at a somewhat older age than the other type, to be living in a stable, cohabiting relationship with a man of low occupational status. However, she does not discuss sexual-contraceptive matters with him, does not report a high level of emotional satisfaction in the relationship, tends to be neutral or pessimistic about its future, and, having begun coitus early, has had a relatively large number of previous mates and impregnators. Respondents having large families show a significant progression of number of impregnators with number of children; furthermore, the greater the number of children, the more likely it is that one or more, especially the first, will have been passed on or boarded out to be reared by relatives. Under such circumstances visiting may be so rare that the mother has no real sense of participation in the child's upbringing.

Unlike Blake's 1961 report 15 years ago that 50 percent of first pregnancies followed initial intercourse, this was reported for only 10 percent of our respondents (with median first coital age for both at 17), although almost none used contraception. Furthermore, despite differences in age at initial intercourse with modernity-SES indexes, the difference in age of initial pregnancy was only weakly correlated. The correlation between education and higher ages of second and third pregnancies was stronger, suggesting that first pregnancy in this population may be more a function of general cultural than of specific SES factors. Other data support the idea that having the first baby is more valued as a demonstration of fertility and attaining adult status for male and female respondents than as an indicator of the value of children and that this demonstration is important, regardless of SES factors. The data similarly indicate a high value placed by males, regardless of SES, on main-

taining multiple simultaneous sexual relationships—with fertility controlled by higher (in contrast to lower) SES-modern males through the use of both condoms and female methods.

POLICY RECOMMENDATIONS

Based on the above, several policy recommendations are suggested. Many of these are self-evident and some have been suggested before. They are limited to what appears feasible and capable of implementation. The recommendations do not include industrial development, although this is a significant way of elevating socioeconomic status. Nor do the recommendations include such obvious corollaries of socioeconomic development as the organization of an effective social security system reducing the economic value of children. These processes are underway. We are concerned with initiatives which may be undertaken within the present socioeconomic context.

The recommendations below are aimed at 1) increasing psychologically modern attitudes, 2) elevating the status of women, 3) promoting mutuality and collaborative interaction between the sexes, 4) promoting greater household and conjugal stability, 5) delaying the age at first coitus, 6) delaying the age at first childbirth, and 7) promoting the use of contraception to delay or space pregnancies.

General Education with Special Reference to the Status of Women

The literacy campaign recently initiated by the government is probably a basic element of a successful fertility control movement. In addition, it is recommended that measures be taken to promote the educational achievement of women, particularly of those in rural areas. It is recognized that it may be difficult to do more than is already being done in terms of basic educational achievement. However, it does seem possible that via the media, special adult classes, and discussion groups, there could be more stress on the possibilities for self-determination in women, means of achieving self-esteem other than by child production, and general awareness of themselves as people with needs separate from their male partners and families.

Education for Identification with National Goals

Part of the drift-neglect-uncertainty determination of failure to contracept effectively appears to be an aspect of lack of certainty about one's position in the society. While much of this may be related to lack of education and economic opportunity, it also appears related to a failure to feel one's self as part of the social fabric. This is related to the familial characteristic of rural-

traditional societies with its associated suspicion of and resistance to innovation. It is suggested that means be developed to enhance the identification of anomic urban or traditional rural people with the goals and purposes of the government. Among other subgoals this implies more adequate communication between urban centers and rural people. An overall goal is the explication of a set of values which might be embraced by the population as a whole.

Family Life Education

This should be encouraged in the home with special reference to increased freedom of parent-child, especially mother-daughter, communication about sexual-reproductive matters. The school is another site for such education.

Couple Communication

Emphasis through public education and other means on the value of couple communication implies mutual respect and freedom from mutual exploitation. This includes the man's use of the woman to demonstrate his virility in the absence of socioeconomic possibilities by "having a baby for him" and the woman's use of the man to demonstrate her fecundity.

Indigenous Fertility Control Methods and the Rural Ambience

The next step in understanding the resistance to modern values including technological practices aimed at regulating natural functions would be to discover the traditional, non-technological means currently employed by rural populations in their ineffective attempts to manage their own fertility. The encouragement of contraceptive attitudes and methods and motivational campaigns couched in language congruent with prevailing value and belief systems would represent a step in the desired direction. It is recommended that research be specifically aimed at these issues.

These recommendations are more in terms of general goals than specific approaches. Local groups or agencies could perhaps focus on particular means of implementation, using local people, and adapting approaches to local circumstances.

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Attitudes Toward Induced Abortion in Korea

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Abstract

The investigators sought to measure the impact on knowledge, attitudes, and practices toward induced abortion in Korea of passage of a law liberalizing abortion. Interviews were conducted among rural and urban women, family planning workers, doctors, and public prosecutors responsible for prosecuting violations of the law. Investigators found a generally favorable attitude toward and wide practice of induced abortion but determined that passage of the law had little impact on already positive attitudes.

The major purpose of this research is to measure the impact of MCHL (Maternal and Child Health Law) upon attitudes and actions related to induced abortion. To investigate this impact of the new law, the extent to which people are aware of its passage and existence must be determined. Perception of the law by the target group is essential, but not sufficient, to lead to a change in fertility-related behavior. For the act of induced abortion to be regarded as being influenced by the law, the perception of the law should be followed by some critical evaluation of its nature and characteris-

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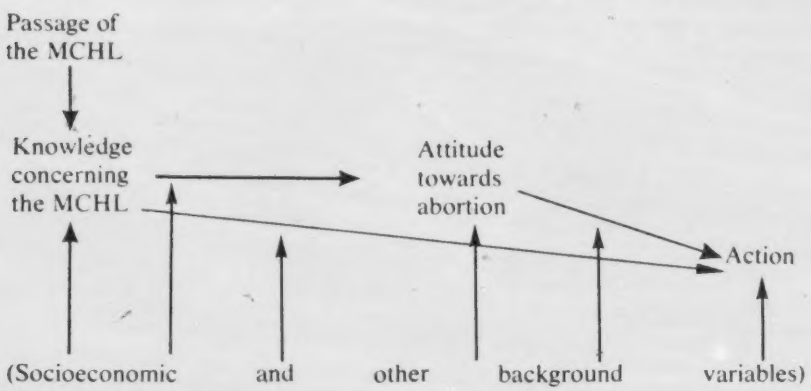
Note: ICP social scientist Roy H. Haas helped prepare this paper for publication. Correspondence to Dr. Jon may be directed to Yonsei University, Seoul, Korea.

tics by the people. Thus, between the passage of the law and the act of induced abortion, there are two critical variables: knowledge of the law, and attitude toward induced abortion as well as toward the new law. The prime emphasis, in the present research, was on the measurement of these two variables in relation to abortion-related behavior. Among these variables, the degree of knowledge concerning the nature of the MCHL was considered the key independent variable in explaining variations in attitudes and actions concerning abortion and other fertility-related behavior.

The major direction of the research can be schematically presented as follows:



Our major concern was to determine the extent to which the target groups were aware that the MCHL has been passed, and uncover some background variables that explained the variation in the degree of this knowledge. The investigation was extended to the other two variables, attitude and behavior, pertaining to induced abortion. The next step was to examine the nature and strength of relationships between the three major variables. When we examined the relationships, we controlled for some relevant socioeconomic variables whenever necessary. The analysis was undertaken for each of four target groups: Married women of childbearing ages, medical doctors, family planning field workers, and public prosectors.

Background Information

Prior to the promulgation of the Maternal and Child Health Law on February 8, 1973, Korea had highly restrictive laws on induced abortion. Articles 269 and 270 of the Criminal Code prohibited induced abortion and made it a criminal offense except when the act was necessary to save the mother's

life. Despite these stringent provisions, thousands of induced abortions were performed in Korea every year,* while the number of prosecutions and convictions was negligible. The discrepancy between the law and the reality concerning abortion was due not so much to any difficulties in the enforcement of the law as to the lack of public support for it and the reluctance of officials to punish the crime.**

Many of those concerned about the possible ill-effects from the ineffective enforcement of the law, suggested either its repeal, or the enactment of a new measure to narrow the gap between law and reality. Proponents of new legislation claimed that provisions of the earlier Criminal Code penalizing abortion should be amended on the following grounds: 1) They do not effectively control abortion. 2) They tend to increase the number of illegitimate children. 3) They expose pregnant women who want abortions to dangerous injuries and even to death. But the proponents of the new legislation were not persuasive enough to shape the belief that induced abortion would erode morality and is against human nature. The government had to submit the draft of the new legislation to the National Assembly several times before its passage by the Emergency State Council.

Legislative Efforts

Since the early part of the 1960s, numerous drafts of the new legislation have been prepared by related ministries of the government and by individual members of the National Assembly in close cooperation with such organizations as the National Family Planning Center and other experts.

Following is a brief chronological description of those legislative efforts.

Draft by Mr. Kyusang Park. The first draft ("The Law Concerning Maternity and Child Health and Promotion of Health of People.") was prepared by Kyusang Park and sent to the National Assembly in 1964. It included provisions dealing with maternity and child health, induced abortion,

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*Hong's study reports that abortions rose from 17 percent of pregnancies in 1961 to 31 percent in 1963 and 40 percent in 1969. The proportion of lifetime pregnancies terminating in abortion doubled from 12 percent for 1964 survey respondents to 24 percent for 1970 respondents. In 1963 abortions were half and in 1969 three-quarters as numerous as live births. (David, Henry P., ed. 1974. *Abortion Research: International Experience*. Lexington Books: Lexington, Massachusetts.)

**For instance, when forty-two judges and forty-eight prosecutors were asked in 1963 if the act of abortion should be punished, only five of the judges and six of the prosecutors answered yes and two of the judges and five of the prosecutors answered that its punishment is unjust. The rest thought that the punishment should accord to the specific circumstances under which abortion is done. (Byong-Je Jon, 1964. *Adequacy of Legal Approach to Abortion Problem*. Master of Law Thesis. Yonsei University: Seoul)

contraception, and sterilization. It stipulated that an induced abortion be allowed:

1) when a pregnant woman or her spouse have a mental disease, hereditary disease or physical deformity;
2) when a relative of within a fourth degree of consanguinity of a pregnant woman or her spouse has the same disease as mentioned above;
3) when continuance of pregnancy or delivery endangers the health or life of the pregnant woman because of physical or economic reasons and
4) when a woman becomes pregnant under situations of violence or threat.

Similar conditions were stipulated for sterilization. In both cases, consent of both marital partners was required.

The deliberation of the draft was prolonged and could not be concluded within the Assembly's session. It had to be shelved automatically in accordance with procedural practice of the Assembly.*

Draft by the Ministry of Justice. The Ministry of Justice formulated new legislation in September 1964, but the effort stopped when religious circles and some criminal lawyers demonstrated strong opposition to the proposed legislation.

First draft by the Ministry of Health and Social Affairs. The first draft by the Ministry of Health and Social Affairs of the Maternity and Child Health Law, which contains provisions similar to that submitted by Kyusang Park, was defeated at the Vice Ministries meeting in 1966. It failed to be referred to the State Council due to strong objection by a majority of vice ministers.

Second draft by the Ministry of Health and Social Affairs. The second draft by the Ministry progressed to the stage of deliberation by the Office of Legislation and the National Assembly. A new provision was added under which an induced abortion would be allowed. Induced abortion in cases of pregnancies resulting from rape, or by illegitimate relations between blood relatives, would be allowed.

The draft, composed of twenty articles, was referred to the Office of Legislation on May 19, 1970, and won approval. It was later shelved at the National Assembly, as the session ended without any affirmative resolution.

In the meantime, a strong campaign of "Two Children for Each Family," with a persuasive slogan of "Let's have two children regardless of their sex and let us bring them up well," began to gain momentum. The Planned Parenthood Federation of Korea sponsored a seminar in June 1971, where the necessity of family planning was thoroughly examined and analyzed in various contexts and from different viewpoints.

*The governing practice at that time was that bills were automatically shelved with the lapse of the session in accordance with article 86 of the National Assembly Law. But the law has been since amended.

Third draft by the Ministry of Health and Social Affairs. The third draft was also referred to the Office of Legislation on July 27, 1971 and then later to the National Assembly, but again failed to be enacted.

This amended draft of seventeen articles and addenda differed slightly from the second draft. It dropped the clause providing for induced abortion when a woman's health is subject to harm for economic reasons. Instead, a new provision was added, which required registration of pregnancy within six months after the conception, and registration of delivery, immediately after the child's birth, with mayors of Seoul or Pusan or governors of provinces.

This draft provided a new social welfare program guaranteeing comprehensive and thorough medical care and protection of all pregnant women and babies after the registration. The problem, as the critics pointed out, was that the Ministry of Health and Social Affairs appeared to be ill-prepared for the responsible management and operation of an expensive national welfare project of this kind.

Fourth draft by the Ministry of Health and Social Affairs. On October 17, 1972, a state of emergency was declared, and a series of stringent measures were taken. The National Assembly was dissolved, political activities were suspended, and a draft of the constitutional amendment was made public. The Emergency State Council took over the lawmaking function from the National Assembly until a new assembly could be elected under the amended constitution.

During the period when the Emergency State Council acted as the nation's lawmaking body, the Maternity and Child Health Law was passed on January 31, 1973, promulgated on February 8, 1973 and made effective as of May 8, 1973.* Subsequently, a Presidential Decree (No. 6713) and an Ordinance of the Ministry of Health and Social Affairs (No. 420) went into effect on May 28, 1973 and August 13, 1973, respectively.

Contents of the Maternity and Child Health Law

The law concerning maternity and child health consists of the statute, the presidential decree and the ministry ordinance. As usual, principal matters are dealt with by a statute, and detailed matters such as defining hereditary diseases and designating doctors are delegated to the presidential decree or to the ordinance of the ministry.

Purpose of the law. The purpose of the law as specified in Article 1 of the MCHL is to contribute to the national welfare by protecting a mother's life and health, and by securing safe delivery and good childcare. The state is

*Law No. 2514.

responsible for providing necessary medical care for mothers and children within its available means.

Induced Abortion

The definition of induced abortion–Induced abortion is defined as the artificial removal of a fetus and its appendages from the mother during the period in which a fetus is unable to remain alive outside the mother's body.* This definition is similar to that in the Eugenic Protection Law of Japan. But it differs from that used in the Criminal Code, which defined it as the process of extracting a fetus from the body of a mother before the natural time of delivery.

The definition of induced abortion in the MCH Law conflicts with that in the presidential decree,** and this may raise a serious legal issue. The decree prescribes that an induced abortion may be performed on a woman who has been pregnant for no more than twenty-eight weeks. Thus, under the law, the provisions in the law and in the decree may be contradictory. That is, a fetus may be aborted by artificial removal during the period when a fetus is unable to remain *alive*† outside the mother's body, whereas the decree defines this period to extend as long as 28 weeks at which time a fetus might have a chance to remain *alive* outside the mother's body. With the remarkable development in medical science and technology, it is possible that a fetus less than 28 weeks old may remain viable outside the mother's body, if proper medical treatment is provided.

• *Scope of legal induced abortion*–The MCH Law stipulates five conditions under which a doctor may perform an induced abortion.††

1) Eugenic or hereditary diseases

When a pregnant woman or her spouse suffers a eugenic or mental or physical disease, a doctor may perform an abortion. The MCH Law delegates the authority to define the kinds of eugenic or hereditary mental or physical diseases to the Presidential Decree, and the Decree defines the diseases to be:‡

- hereditary schizophrenia
- hereditary manic-depressive reaction
- hereditary epilepsy
- hereditary mental retardation

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*Paragraph 4, Article 2 of the MCH Law.

**Paragraph 1 of Article 3, the Presidential Decree.

†Emphasis by author.

††Paragraph 1, Article 3, the MCH Law.

‡Paragraph 2, Article 3, the Presidential Degree.

- hereditary locomotor sensory ataxia or psychomotor disorder
- hereditary hemophilia
- mental disorder with criminal tendencies
- other hereditary diseases having a 10 percent or higher chance of affecting the fetus

In terms of legislative technique, the wording of the last clause is ambiguous. Who and how to decide hereditary diseases "having 10 percent or higher chance of affecting the fetus" are problems sure to be raised.

2) Infectious diseases

The MCH Law prescribes that a physician may perform an abortion when a pregnant woman or her spouse suffers from an infectious disease.* It also delegates the power to define infectious diseases to the Presidential Decree.** These are:

Class I. Cholera, plague, typhus, endemic typhus, typhoid fever, paratyphoid, smallpox, scarlet fever, diphtheria, dysentery (bacillary or amoebic), relapsing fever, epidemic cerebrospinal meningitis.

Class II. Acute poliomyelitis, whooping cough, measles, mumps, epidemic encephalitis, hydrophobia, malaria.

Class III. Tuberculosis, venereal disease, leprosy.

3), Rape or quasi-rape

The MCH Law allows doctors to perform an abortion when a woman becomes pregnant by a rape or a quasi-rape. A quasi-rape means taking advantage of the female's condition of unconsciousness or inability to resist.†

It is not clear whether a claim of being pregnant by an alleged rape or a quasi-rape is sufficient for an abortion, or whether an indictment of the "criminal" is required. Where there is no precedence for the case, a reasonable interpretation of this clause would be that the woman's claim that she became pregnant by a rape or a quasi-rape is a satisfactory requirement to perform an abortion.

4) Ethical grounds

The MCH Law provides that a doctor may perform an abortion when the pregnancy results from sexual relations with relatives or family members for

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*Clause 2, Paragraph 1, Article 8 of the MCH Law.

**Paragraph 3, Article 3 of the Presidential Decree.

†Article 299 of the Criminal Code.

whom marriage is prohibited by law. The Civil Code prohibits a marriage between relatives by blood, if both surname and origin are common to the parties.

5) Health and medical grounds

When the continuation of pregnancy is considered to be damaging to the mother's health or is likely to be harmful to her health, a doctor may perform an abortion.

Abortions may not be performed on women whose health may be severely affected, due to economic reasons, by the continuation of pregnancy.

Because indigent people are most in need of abortions, and the MCH Law was enacted by the Emergency State Council, the law should have included provisions for economic reasons for abortion.

• *Consent.* In case of an abortion, the consent of the woman and her spouse, including the spouse of a de facto marriage, are required.* In cases where the spouse's consent cannot be obtained because of death, disappearance, or other unavoidable circumstances, the operation may be performed. If she or her spouse is unable to speak for herself/himself due to mental or physical disease, the consent of parental authority is sufficient.**

The law does not mention consent in the case of a minor who is regarded incapable of performing any juristic act by himself or herself.† But it may be interpreted that the consent of his or her legal representative may be sufficient.

Sterilization

1) Definition—Clause 3, Article 3 of the MCH Law defines sterilization as a surgical operation that does not remove reproductive organs but produces infertility. The law provides for a voluntary operation as well as a mandatory one.††

2) Scope of sterilization—Persons required to be sterilized are those who suffer from one of the eugenic or hereditary mental or physical diseases mentioned above.

3) Procedures for the sterilization operation. a) When a physician diagnoses a patient as having a disease mentioned above and believes that sterilization is required in the public interest, he must report the case to the Health Center Director‡ within seven days after his finding.‡‡ However,

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* Paragraph 1 of Article 8 of the MCH Law.

** Paragraph 3 of Article 8 of the MCH Law.

† Article 4 of the Civil Code.

†† Chapter II of the Japanese Eugenic Protection Law.

‡ Form 4 attached to the Order of the Ministry.

‡‡ Paragraph 1, Article 4 of the Order of Ministry of Health and Social Affairs; Article 9 of the MCH Law and Paragraph 2, Article 4 of the Presidential Decree.

there is no penalty specified in this law for violating this duty to report.* b) The Health Center Director has to report within five days after the receipt of the doctor's report** to the Minister of Health and Social Affairs through either the Mayor of the Special City of Seoul, the Mayor of the City of Pusan, or the Provincial Governor.† c) If the Minister of Health and Social Affairs intends to issue an order for a sterilization, he has to refer the case to the Family Planning Advisory Committee for review and approval.†† Then, he designates a physician who can perform such a sterilization operation. The doctor should be a specialist in obstetrics, gynecology, urology, or surgery, who has been appointed by the minister to the task after receiving training in sterilization operations.‡

4) Remedy against the order by the minister—If a person for whom a sterilization order is issued is dissatisfied, he may institute litigation for withdrawal of the order within two weeks after he receives the mandatory notice. Once the litigation is lodged, the effectiveness of the order will be suspended until a final court decision is given.‡‡

Contraception

Practical guidance on contraception may be given by physicians, midwives, nurses, aid nurses or others so designated by the Minister of Health and Social Affairs.§ Only physicians, or licensed midwives or nurses designated by the Minister of Health and Social Affairs§§ may insert intrauterine contraceptive devices.

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*There might be some risks of being sued for malpractice. The patient may claim that the decision and report had been negligently made.

**Paragraph 2, Article 4 of the Order of the Ministry.

†Paragraph 3, Article 4 of the Presidential Decree.

††Paragraph 4, Article 4 of the Presidential Decree.

‡Article 5 of the Presidential Decree.

‡‡Paragraph 3 of Article 9, the MCH Law.

§These are senior high school graduates or the equivalent who have undergone training with a completion of a two-week course in family planning at the Korean Institute for Family Planning.

§§Those are the persons who have undergone training at the National Institute of Health or the Korean Institute for Family Planning or general hospital, hospitals with obstetrics and gynecology departments, or health center of fourteen days or more on class lectures on midwifery, anatomy in the area of obstetrics-gynecology, physiology, pathology, and practical training of forty-six days or more on diagnosis, insertion of intrauterine devices, and practice of delivery.

Paragraph 2 of Article 1 of the Ministry Regulation.

Government subsidies

The government may subsidize expenses for: 1) Family planning workers, 2) delivery expenses for those unable to bear such expenses, 3) sterilization expenses for those done under the Article 9 of the MCH Law (mandatory operation) and for those unable to bear expenses even in the case of voluntary operation, and 4) operation expenses of family planning organizations designated by the Minister of Health and Social Affairs, within the limits of government budget.

These subsidies are appropriated from the budget for local projects of the Ministry of Home Affairs.

RESEARCH DESIGN

Questionnaire Development

Some of the data collected for the measurement of the three major variables differ among each of the four target groups. For example, we cannot uniformly measure the degree of knowledge about the MCH Law. The way of perceiving the law differs among the four groups of respondents. Married women may not be interested in technical details of the law. Public prosecutors may be concerned with its legal procedural aspects. Doctors and family planning field workers may be interested in its medical aspects. The variable attitude toward induced abortion does not differ among the four groups. Course of action concerning abortion and fertility related behavior varies among groups. For married women, it includes having the abortion and practicing contraception; for medical doctors, it includes abortion operations and sterilization, changes in the medical charge of the operation, and improvement in the medical facilities for the operation; for the family planning field workers, this variable consists of various kinds of counseling activities; and for the public prosecutors, it consists of prosecuting abortion-related cases and willingness to prosecute in the future.

Tentative questionnaire forms for the married women, medical doctors, family planning field workers, and public prosecutors were constructed, and sent to five experts for criticism. Upon completion of the tentative draft of the questionnaire which reflected constructive comments from those five referees, interviewers pretested them prior to their being used in the selected samples.

Sampling

Married women. The sample representing females in their reproductive ages is confined to married women ages 19-46. For economic reasons, we decided to limit this sample to 1,600 subjects. Two Kuns were chosen which

were considered to be typical remote rural areas, and eight Kus in Seoul.* The degree of urbanization may be a powerful factor which influences voluntary abortion and other fertility-related behavior. To reflect this in our sampling, we drew two Kuns from rural areas, and eight Kus from Seoul, the most urbanized region in Korea.

We selected 200 samples from each of the four Myons. In order to draw 200 samples from each of the four Myons we first randomly sampled some natural villages and interviewed all married women of the age group. When the sample didn't reach 200, we again drew more villages until the respondents reached the desired number of 200.

From each of the eight randomly sampled Kus in Seoul, we randomly took one Dong and interviewed all married women of the age group in the first Ban. First, we decided to interview 100 respondents from each of the eight Dongs. Here again, when the number of respondents didn't reach 100, we continued to interview in the second Ban, third Ban, and so on. After reaching 500, we examined socioeconomic characteristics of the already interviewed respondents in Seoul. Most of the respondents belong to the lower class. Since socioeconomic status may be a crucial factor for our analysis, we added two more Dongs considered to be richer residential areas. Then we readjusted the number of respondents for each of the Dongs from 100 to 80.

Medical doctors. We interviewed 200 medical doctors who have performed either abortions or sterilizations. However, it was difficult to define the exact scope of the population from which to draw 200 cases. We decided to randomly select some regions from Kus in Seoul, Sis, and Kuns from the entire country and interview all the doctors in the sample areas who have performed either abortions or sterilizations.

We first divided the country into three regions according to the degree of urbanization. Five Kus were randomly sampled from a total of 11 Kus in Seoul. In selecting eight Sis out of a total of 34 Sis and eight Kuns from a total of 183 Kuns, emphasis was given to regional distribution, sacrificing randomness. We checked mutual physical distances between the Sis, and in the cases of Kuns, we tried to avoid Kuns which are located within two hours driving distance from the nearest Si. We tried to allocate the equal numbers of Sis and Kuns to every province in Korea.

Family planning field workers. To match the number of family planning field workers with that of medical doctors, 200 questionnaires were mailed. Again considering regional distribution and degree of urbanization, we chose two Kus from Seoul, another two Kus from Pusan, one Ku from Inchon; six

*The Ban is the smallest unit of administrative district, the order being Si, Ku, Dong, and Ban in the case of urban district. In the case of rural district, the order to Do, Kun, Myon, and Li.

Sis from a total of thirty Sis excluding Seoul, Pusan, Taegu, and Inchon; and nine Kuns out of one-hundred eighty three Kuns. After selection of the regions, we sent a letter to the heads of the Public Health Centers of the regions, asking for the rosters of the family planning field workers under their jurisdictions. Upon receipt of the answers, we mailed questionnaires to all family planning field workers whose names were on the rosters.

Public prosecutors. There are thirty-six district prosecutor's offices in Korea, sixteen of which are composed of five or more prosecutors. From these sixteen, we randomly selected five offices and mailed questionnaires to all the prosecutors in these five offices.

Interviewing

The total sample size for our research was 1,542 women, 200 medical doctors, 200 family planning field workers, and 100 public prosecutors. All respondents were either interviewed or mail-surveyed through formally structured questionnaires, which differed for the four groups according to the nature of data we needed from each. Face-to-face interviews were conducted only with married women and medical doctors, mail questionnaires were sent to the family planning field workers and public prosecutors.

THE ATTITUDES OF KOREAN WOMEN

In this section, we examine the knowledge, attitude, and practice of married women concerning family planning and abortion. We see how married women of childbearing ages perceive the Maternal and Child Health Law and how they respond to it, so we can examine if the MCH Law has had any effect on family planning practices and abortion.

Background Characteristics

There are basic differences in the demographic characteristics of rural and urban respondents. Urban women are somewhat younger than rural women, perhaps as a result of the outmigration of rural young couples to the urban areas. Over 25 percent of the rural women are 40 or over, compared to only 17 percent among their urban counterparts. Rural women marry earlier: Over 60 percent were married before 20. Only 25 percent of urban women marry at such an early age. Median ages of marriage in urban and rural areas are 22.0 and 18.9, respectively.

Rural women averaged 5.2 pregnancies and had 4.1 living children, while urban women had 4.1 pregnancies and 2.6 living children. The greater gap between numbers of pregnancies and living children among urban women suggests a higher incidence of voluntary abortions in this group.

Socioeconomic characteristics also differ according to residence. Educational attainment is much higher in the urban areas for both women and their husbands. Well over 40 percent of the rural respondents had no formal education; only 8 percent of the urban respondents had had no schooling. The proportion of the latter having attended college was 18.6 percent compared to 0.2 percent for those living in rural areas. Similar trends are found for husbands, although the gap is narrower.

A majority of the rural respondents' husbands are farmers. In the urban areas, most of the men are administrative and clerical workers, sales workers, and laborers. Over 80 percent of the women—urban as well as rural—are housewives. Those who have occupations in the urban areas are mainly sales workers and laborers. Many rural dwellers who do not have occupations are likely to work on the farm occasionally.

More than 60 percent of the respondents in the rural areas had living expenses under 20,000 won ($40.00) a month, whereas most of the respondents in the urban area (88 percent) spend more than that.

The proportion of nonbelievers among the rural women is much higher than among urban women, and Buddhism is much more pervasive than any other religion in Korea. This pattern of religious distribution is also found for husbands.

There are considerable differences in the degree of exposure to mass media between the rural and urban areas. Sixty-two percent of the urban respondents subscribe at least to one newspaper, while only 16 percent do so in the rural area. The proportion who read a newspaper daily is 42 percent in Seoul and only 5 percent in the rural areas. Magazine reading and television viewing also differ markedly by area. Forty percent of the Seoul respondents watch television more than three hours, whereas most of the rural respondents never watch. Only radio listening varies little by area.

Knowledge of the MCHL

Three-quarters of all respondents—urban and rural—replied positively to the question: "Do you think women can have an abortion whenever they want it in our country?" Only 4 of the 811 rural women and 11 of the 731 urban women felt that abortions are not obtainable because they are illegal. Less than 2 percent had ever heard of anyone being arrested for having had an abortion.

When respondents were asked if they knew of any law related to abortion, 1.8 percent of the rural women and 8.5 percent of the urban women specified the MCHL, 49.6 percent of the rural women and 43.9 percent of the urban women felt that "there seems to be some kind of law," and the remaining respondents said "no." Knowledge of the MCHL is highly correlated with

level of education, residence before marriage, and newspaper reading.

When respondents were asked about the specific legal status of abortion, 10.6 percent of the rural women and 27.1 percent of the urban women gave correct answers in stating that abortion is legal only under certain circumstances.

The women were given fourteen specific conditions and asked if the MCHL allows abortion under each. As is shown in Table 1, a majority of the women did not know whether it was permitted under the various conditions. This was true of urban as well as rural residents.

To more adequately measure knowledge of the MCHL, a series of twenty-four questions were asked from which a knowledge scale was constructed ranging from 0 to 37. The mean knowledge score measured by this scale is extremely low: 6.89.

Urban women had much higher levels of knowledge than rural women. Since the knowledge variable is strongly correlated with level of education and level of education differs by regions, regional differences are partly due to educational attainment. Knowledge is strongly correlated with degree of exposure to mass media. The knowledge variable is also correlated with knowledge of other laws and degree of familiarity with family planning practices. It is negatively correlated with age, length of marriage, number of living children, ideal number of children, and ideal number of sons. All these negatively correlated variables are clustered around the age factor, and all the relationships with knowledge can be strengthened by changes in level of education. The age at which first marriage occurred, which is correlated with level of education, is positively correlated with the knowledge variable. We can conclude that age and level of education are the key determining socioeconomic variables for increased level of knowledge of the MCHL.

Attitude Toward Family Planning and Induced Abortion

When women were asked: "Do you think we have a population problem in Korea?", 81 percent of the rural women and 96 percent of the urban women said "yes."

Over 80 percent of all respondents expressed a positive attitude toward family planning, urban women being somewhat more favorable than rural women (87 percent to 82 percent). There is a positive relationship between educational attainment and a positive attitude toward family planning. Indeed, almost 95 percent of the college-educated urban respondents expressed such an attitude. When the women were asked about their attitudes toward abortion, 61 percent of the rural women and 52 percent of the urban women showed positive attitudes, 21 percent of the rural and 18 percent of the urban were neutral, and 18 percent of the rural and 30 percent of the urban women were opposed to abortion.

Table 1
Percentages of Respondents With Right and Wrong Answers on the MCHL

		Rural			Urban		
		Right	Wrong	Don't Know	Right	Wrong	Don't Know
When mother's health is seriously threatened	Allowed	10.23	0.49	89.27	19.42	2.32	78.24
When either of the parents is inflicted with contagious disease, such as typhoid fever, Japanese encephalitis, cholera	"	7.40	0.37	92.23	16.14	2.32	81.53
When either of the parents is inflicted with contagious disease, such as whooping cough, malaria, dysentery	"	6.78	0.49	92.73	11.76	5.60	82.62
When either of the parents carries a hereditary disease, such as epilepsy	"	5.92	0.25	93.83	17.37	1.77	80.84
When pregnancy results between those who are not legally allowed to marry	"	4.56	0.25	95.19	13.54	5.19	81.25
When pregnancy results from rape	"	2.71	0.74	96.55	13.40	4.37	82.20
When a fetus is deformed or morbid	Not allowed	4.56	0.25	95.19	1.77	17.64	80.57
When mother's health is bad	"	3.33	0.74	95.93	10.25	7.79	81.94
When pregnancy is due to the failure of contraceptive measure	"	1.36	1.85	96.79	7.66	10.39	81.94
When unmarried or widowed woman is pregnant	"	1.23	1.73	97.04	7.66	9.43	83.02
When the household is too poor	"	1.11	1.85	97.04	9.98	8.07	81.94
When pregnancy results from adultery	"	0.86	2.96	96.18	7.11	9.71	83.17
When the birth interval is too short	"	0.86	1.85	97.29	9.98	6.97	83.03
When there are too many children	"	0.74	2.47	96.79	7.25	10.94	81.80

We also measured respondents' attitudes toward family planning and abortion by means of scales and correlated these with other variables. Attitude toward family planning is significantly related with level of education, age at first marriage, degree of exposure to mass media, degree of knowledge of other laws, degree of knowledge of the MCHL, and degree of familiarity with contraceptive methods. On the other hand, attitude toward family planning is negatively related with duration of marriage, number of living children, number of dead children, number of additional children wanted, and ideal number of children.

A scale was constructed to measure attitude toward induced abortion with a range of 1 to 17. The mean score was 12.47, the standard deviation 4.14. This suggests an overall positive attitude towards abortion. Positive relations were noted between this variable and level of education, duration of marriage, the age at which first marriage occurred, frequency of pregnancy, degree of familiarity with contraceptive methods, exposure to mass communication, and positive attitude toward using contraceptive methods. In addition, those using contraceptive methods tend to have positive attitudes toward abortion. The abortion attitude variable is negatively correlated with number of additional children wanted, number of additional male children wanted, ideal number of children, and ideal number of male children. As expected, those who want more children hold negative attitudes toward abortion.

Contrary to our expectations, a positive attitude towards abortion is not meaningfully related to knowledge of the MCHL. Thus, it is probable that women had a positive attitude toward abortion before the passage of the MCHL.

Women were asked their opinion about the MCHL after the overall nature of the law had been explained. Seventy percent of the rural women and 72 percent of the urban women responded positively. Many of the rural women who indicated approval of the MCHL said that the law is good simply because it is a law and passed by the government; many urban women holding positive positions reasoned that the law is in accordance with the general population policy of the society. A positive attitude toward the law is strongly related with a positive attitude toward abortion. But some variables positively correlated with attitude toward induced abortion are negatively correlated with this variable. For example, the age at first marriage and degree of exposure to mass communication are negatively associated with attitude toward the MCHL, but positively associated with attitude toward abortion. Perhaps women with little education are submissive to government legislative policy.

We asked again whether abortion should be allowed under each of the fourteen circumstances we have provided; responses are shown in Table 2.

Table 2.
Attitude on Induced Abortion and Specific Conditions

	Rural			Urban		
	Yes (%)	Neutral (%)	No (%)	Yes (%)	Neutral (%)	No (%)
When mother's health is seriously threatened	83.72	9.74	6.54	88.23	2.04	9.71
When pregnancy results between those who are not legally allowed to marry	80.64	12.57	6.78	92.33	2.46	5.19
When pregnancy results from rape	79.28	13.32	7.40	92.06	3.68	4.24
When fetus is deformed or morbid	79.28	12.82	7.89	94.66	1.63	3.69
When either of the parents carries a hereditary disease, such as epilepsy	78.05	13.68	8.26	91.51	3.40	5.06
When pregnancy results from adultery or fornication	77.56	14.55	7.89	91.10	3.14	5.74
When either of the parents is inflicted with contagious disease, such as typhoid fever, Japanese encephalitis, cholera	76.82	13.68	9.49	90.42	2.73	6.83
When unmarried or widowed woman is pregnant	75.83	13.20	10.97	85.49	5.46	9.02
When either of the parents is inflicted with a contagious disease, such as whooping cough, malaria, dysentery	72.38	13.68	13.93	71.40	2.99	25.58
When there are too many children	71.27	10.98	17.76	86.04	2.18	11.76
When the birth interval is too short	65.97	11.59	22.44	61.14	3.14	35.70
When pregnancy is due to the failure of contraceptive measures	60.67	15.16	24.17	76.74	6.14	17.09
When the household is too poor	53.76	12.95	33.29	72.36	4.50	23.11
When mother's health is bad	52.40	11.71	35.88	59.09	2.86	38.03

A majority of the respondents feel that abortion should be permitted under all circumstances, including economic reasons, failure of contraceptive measures, and mother's health. It is interesting to note that in all but two circumstances the rural women hold more conservative attitudes than the urban women: When either of the parents have a contagious disease, such as whooping cough, malaria, and dysentery, and when the birth interval is too short, the rural women are more liberal.

Practice: Contraception and Abortion

Women were asked what they considered to be the ideal number of children. As is shown in Table 3, rural women want more children than do urban women. Indeed, over half of the latter consider two or less an ideal.

As for the first birth control method used, 39 percent of the rural women and 41 percent of the urban women used contraceptives, but 9 percent of the rural women and 26 percent of the urban women resorted to abortion as their first means of birth control. However, half the rural respondents and one-third the urban respondents either used contraceptives or resorted to abortion.

The relationship between family planning practices and possible causal variables was also examined. In summary, education, newspaper reading, duration of marriage, number of pregnancies, number of living children, positive attitude toward family planning, and positive attitude toward abortion are all positively and significantly related to the use of contraceptives and/or abortion.

Table 3
Ideal number of children

	Rural		Urban	
	Frequency	(%)	Frequency	(%)
2 or less	82	(10.11)	371	(50.75)
3	304	(37.48)	285	(38.98)
4	254	(31.32)	55	(7.52)
5	133	(16.40)	9	(1.23)
More than 6	20	(2.47)	--	(--)
D.K.	18	(2.22)	11	(1.50)
Total	811	(100.00)	731	(100.00)

Among contraceptives, the loop has been the most popular method of contraception for rural women, but oral pills are now the most frequently used among both rural and urban women.

According to Table 4, a significant number of Korean women have never used any method of birth control.

Table 4

Contraceptive Method Used Longest and Method Currently Used

	Method used longest				Method currently used			
	Rural		Urban		Rural		Urban	
		(%)		(%)		(%)		(%)
Not relevant	448	(55.24)	280	(38.90)	575	(71.02)	391	(53.48)
Loop	169	(20.84)	109	(14.91)	80	(9.86)	67	(9.16)
Oral	136	(16.77)	140	(19.15)	96	(11.84)	76	(10.39)
Condom	23	(2.84)	55	(7.52)	22	(2.71)	62	(8.48)
Withdrawal method	17	(2.10)	8	(1.09)	22	(2.71)	8	(1.09)
Rhythm method	12	(1.48)	65	(8.89)	12	(1.48)	39	(5.33)
Others	2	(0.24)	3	(0.41)	--	(--)	2	(0.27)
Vasectomy	4	(0.49)	71	(9.70)	3	(0.37)	86	(11.27)
Total	811	(100.00)	731	(100.00)	811	(100.00)	731	(100.00)

Urban women are much more likely to have an abortion than rural women. Eighty percent of the rural respondents have not experienced an abortion, compared to only 58 percent of the urban women. (See Table 5.) Urban women resort to abortion much earlier than do rural women. Over 83 percent of the 153 rural and 312 urban women who had an abortion had consulted with their husbands before they had the operations. Twenty-one of the rural and twenty-six of the urban women made the decision alone. Some others had consulted with their husbands' parents, some with their own parents or with their friends and neighbors.

When we asked the respondents if they thought it was unlawful when they got an abortion, only three of the rural women and seven of the urban women said "yes." The legality of getting an abortion was not an issue. When we asked if they had any guilty feelings after the abortion, a significant number said "yes." Apparently abortion is more a moral than a legal issue for most of the women.

There is a strong relationship between frequency of abortion and level of education. Since educational attainment is highly correlated with socioeco-

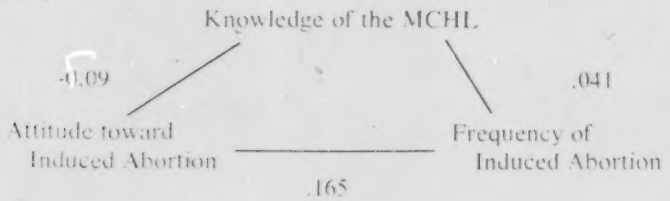
Table 5
Number of Induced Abortions Experienced

	Rural		Urban	
	No.	(%)	No.	(%)
None	652	(80.39)	422	(57.72)
1	103	(12.70)	109	(14.91)
2	30	(3.70)	83	(11.35)
3	14	(1.73)	45	(6.15)
4	7	(0.86)	28	(3.83)
5	2	(0.25)	16	(2.18)
6	3	(0.37)	11	(1.50)
7 - 13	--	(--)	17	(2.29)
Total	811	(100.00)	731	(100.00)

nomic status, the reason for the strong relationship may be partly economic. Perhaps, too, women with higher education are more likely to plan their lives, while women with low levels of education are more fatalistic and accept pregnancy as a fact of life over which they have little control.

The frequency of abortion is strongly correlated with number of living children, duration of marriage, and number of pregnancies, while it is negatively correlated with number of additional children they want to have, ideal number of children, and number of dead children. It is also strongly correlated with degree of exposure to mass communication and degree of familiarity with various contraceptive methods.

Our working hypothesis is that passage of the MCHL may have altered the attitude of the respondents on abortion and then the law may have influenced its frequency through the change of the attitude variable. However, knowledge of the MCHL has no meaningful relationship with the attitude variable; the knowledge variable has a weak relationship with frequency of abortion. The strength of the relationships between the knowledge, the attitude, and the practice variables are shown in the following diagram:



On the basis of this diagram alone, the conclusion is that knowledge of the law, and thus passage of the MCHL, has little influence on the trend of abortion in Korea.

Conclusions

The criminal Code which prohibits abortion was not a significant deterrent factor in limiting its occurrence, and thus the passing of the Maternal and Child Health Law has not noticeably affected attitude and frequency of abortion. Contraceptive measures were widely disseminated among the women wanting to regulate their births. Even though a few women adopted abortion as a first means of family planning, most resort to it after they have failed to prevent pregnancy by using some contraceptive.

Permanent means of birth control, such as vasectomy and sterilization operations for females have not been widely adopted. Economic factors are a possible reason, but a more significant factor seems to be that many persons are not sure of its safety.

If we consider that socioeconomic factors, particularly education, are significantly related with favorable attitudes and practices concerning family planning, and that rural women are behind their urban counterparts in adopting contraceptive measures, the role of the family planner is still vital in educating women to the necessity of family planning in rural areas.

Population control in Korea is no longer a matter of means of birth control, but of the will on the part of women of childbearing age to actively control their births. To stimulate motivation, a more extensive public education program is necessary, and it is imperative to connect the program to the Saemaul Movement which successfully improves both physical and spiritual life, particularly in rural areas.

THE MATERNAL AND CHILD HEALTH LAW AND MEDICAL DOCTORS

Background Characteristics of the Doctors

About 10 percent of the medical doctors practicing in Seoul and included in our sample reported having performed abortions. In the rural areas, the percentage reaches 30. The relatively low proportions in Seoul stem from there being many other doctors there specializing in areas which have little to do with abortion.

Of the 227 doctors interviewed, 115 were from Seoul, 71 were from Sis in the provinces, and 41 were from rural Kuns. Seventy-seven percent are male.

As for age distribution, 7 percent are below the age of 35, and 12 percent are above 55 years of age. Over 80 percent fall between 35 and 54.

Less than 14 percent of the respondents received their medical education before 1945 during the Japanese rule. Eighty-two percent graduated from the seven largest medical schools in Korea: Usuk University, Kyungbuk University, Seoul National University, Junnam University, Yonsei University, Ewha University, and Catholic University. Thirteen graduated from medical schools in Japan or other medical schools in Korea.

More than 62 percent of the doctors do not have any religion. Of the 227 respondents, 23 percent are Protestant, 7.9 percent are Buddhists, 4.0 percent are Catholics. Five respondents have other religious affiliations.

Among these medical doctors, 85 percent work in their own clinics and the remaining 14.5 percent are employed in hospitals. Twenty-four percent specialize in gynecology, 10.6 percent in surgery, 8.4 percent in urology, 3.08 percent others, and 54.2 percent have no particular specialty. In Korea, most medical doctors practice more than one specialty, and those who do not hold the "board" for a specialty can practice in the field of their competence. When respondents were asked to specify at least two fields of competence, over 70 percent specified gynecology as their first priority.

Due to the nature of the sampling which is limited to those who have had experience in performing either abortions or sterilizations, we cannot assume that the above characteristics are representative of all doctors in Korea. We can presume, however, that these are the characteristics of the doctors who have had such experience.

Knowledge of MCHL

We asked a series of 13 questions to determine the knowledge of the doctors concerning the MCH law. A knowledge scale was then constructed ranging from 0 to 29. The mean score measured by this scale is 17.96 with a standard deviation of 5.86.

When doctors were asked if there is any law concerning the health of mothers and children, only 64.76 percent of the respondents answered "yes" by giving the name of the law. Sixteen percent stated that there seems to be a law, failing to mention the name. Nineteen percent said they don't know if such a law exists. However, when asked if they had ever heard of MCHL, 96.91 percent of the respondents replied affirmatively. When asked how the law treated abortion, 84.6 percent gave the correct answer by saying that it is allowed in some cases. Nearly 5 percent answered that it is strictly prohibited. Eight percent erroneously said it is allowed. Five doctors simply don't know.

When asked specific questions concerning the law, few gave correct answers. For example, only 15 percent knew exactly when the law took effect. Only 21.2 percent knew that the new law allows an abortion until the seventh

month, or twenty-eighth week, of pregnancy, and nearly 30 percent believed that the new law allows abortion only within the first three months.

The respondents were asked if the MCHL allows abortion under each of the fourteen specific conditions (Table 6). Nearly 76 percent of the respondents stated that an abortion is legal when the fetus is deformed or morbid; this is not the case. And even though abortion is legal when either of the parents is inflicted with a contagious disease, nearly half of the respondents did not think this was so.

Apparently, medical doctors assume the scope of legal justification to be much wider than it actually is. For example, abortion is not legal under items eight through fourteen. However, many doctors think it is. Most doctors think that the new law is much more lenient than its predecessor, the Criminal Law. Few know the exact boundary between legal and illegal abortion under the new law; some think it is totally legalized by the MCHL. Medical doctors have, nevertheless, a higher degree of knowledge concerning MCHL than family planners or married women.

Attitude Toward Abortion

Seventy percent of the respondents felt there is nothing wrong with abortion, while 7 percent answered negatively. The remaining 23 percent answered that justification depends upon the existing circumstances.

The medical doctors were asked whether abortion should be allowed under specific circumstances. Responses are shown in Table 7. There are significant discrepancies between the MCHL and doctors' attitudes. Nearly 90 percent thought that abortions should be allowed when the fetus is deformed or morbid. It is not allowed under the law. On the other hand, whereas the law permits abortions when either of the parents has a contagious disease, 37.4 percent of the respondents thought the law should not allow abortion. Even for the seven situations in which abortion is not legally permitted under the MCHL, a majority of the respondents feel it should be permitted. In short, doctors' attitudes toward abortion were quite liberal. This may be influenced by their belief that Korean society is currently faced with a serious population problem. When asked if a population problem does exist, all except two answered "yes." Furthermore, those whose knowledge level on the MCHL is higher tend to have more liberal attitudes toward abortion.

When the medical doctors were asked if they have ever felt a sense of guilt when performing an abortion, 14 percent replied that they did before the law was passed. Forty-eight percent answered that they had a sense of guilt sometimes, depending on the nature of the case. Interestingly, the sense of guilt was reduced with the passage of the MCHL. For example, guilt feelings are now always present among only 11.9 percent of the doctors.

Table 6

Percentages of Respondents with Right and Wrong Answer on MCH Law

Specific Conditions		Right	Wrong	D. K.
1) When mother's health is seriously threatened	Allowed	77.53	4.85	17.62
2) When either of the parents carries a hereditary disease, such as epilepsy	"	67.40	9.25	23.31
3) When mother's health is bad	"	63.00	12.33	24.67
4) When pregnancy results from rape	"	61.67	13.22	25.11
5) When pregnancy results between those who are not legally allowed to marry	"	50.66	16.74	32.60
6) When either of the parents is inflicted with a contagious disease, such as typhoid fever, Japanese encephalitis, cholera	"	38.33	33.92	27.75
7) When either of the parents is inflicted with a contagious disease, such as whooping cough, malaria, dysentery	"	25.11	46.70	28.19
8) When the birth interval is too short	Not Allowed	51.54	18.94	29.52
9) When the household is too poor	"	50.66	19.82	29.52
10) When pregnancy is due to the failure of contraceptive measure	"	48.46	22.47	29.07
11) When there are too many children	"	40.09	31.72	28.19
12) When unmarried or widowed woman is pregnant	"	37.44	32.60	29.96
13) When pregnancy results from adultery	"	27.31	43.17	29.52
14) When fetus is deformed or morbid	"	3.52	75.77	20.71

Over three-quarters of the doctors positively evaluated the MCHL because it is in line with general population policy and it protects doctors from threats of criminal indictment. The remaining respondents withheld their

Table 7
Attitude on Induced Abortion Under Specific Conditions

Specific Conditions	Yes (%)	Neutral (%)	No (%)
When mother's health is seriously threatened	85.90	11.45	2.64
When pregnancy results from rape	83.26	11.01	5.73
When mother's health is bad	81.06	13.65	5.29
When either of the parents carries a hereditary disease, such as epilepsy	77.97	11.45	10.57
When pregnancy results between those who are not legally allowed to marry	77.09	11.45	11.45
When either of the parents is inflicted with a contagious disease, such as typhoid fever, Japanese encephalitis, cholera	59.91	18.50	21.59
When either of the parents is inflicted with a contagious disease, such as whooping cough, malaria, dysentery	44.05	18.50	37.44
When fetus is deformed or morbid	87.22	10.57	2.20
When there are too many children	75.77	11.89	12.33
When pregnancy results from adultery or fornication	74.89	13.65	11.45
When unmarried or widowed woman is pregnant	72.25	13.21	14.54
When the household is too poor	66.52	15.42	18.06
When pregnancy is due to the failure of contraceptive measure	59.03	15.42	25.55
When the birth interval is too short	58.15	14.54	27.31

opinions. The correlation between attitude toward abortion and attitude toward MCHL is statistically significant. This suggests that those whose attitude toward induced abortion is liberal tend to have a positive evaluation of the MCHL.

Practices Concerning Abortion

Among the 227 respondents, 13.7 percent have performed abortions but not sterilizations. Twelve percent have sterilized patients but have not performed abortions. Seventy-four percent of the respondents have done both.

When asked if they kept records of abortions in their files, 89.4 percent said "yes." Table 8 shows the percentage of respondents according to the number of abortions they performed since 1970.

Over the four-year period, the trend has increased. The proportion who had no experience performing abortions has decreased steadily, while the proportion performing more than 11 abortions per week has grown. Overall, the weekly average has risen from 6.3 in June 1970, to 8.3 in April 1974.

The MCH Law took effect on May 8, 1973, the ninetieth day after the law had been proposed. There was a slight increase in abortions after that, but the proportion is too meager to conclude that the trend is affected by the law.

When the respondents were asked if they had ever refused to perform an abortion, a majority answered they had. However, the refusal rate dropped noticeably over time. Before passage of MCHL, 81.5 percent had refused to perform an abortion at some time; only 66.5 percent indicated having refused to do so since the new law in 1973. This declining refusal rate may be because most doctors think the new law has widened the scope of legal justification.

Table 8

Percentage of Doctors and Number of Abortions per Week

No. of Abortions per week	Period	1970	1971	1972	1973 1 - 6	1973 7 - 12	1974 1 - 8
Less than 1		2.64	2.64	2.64	2.64	2.64	5.29
1 - 5		26.87	28.63	30.84	31.71	33.04	36.13
6 - 10		10.13	11.89	13.21	15.41	13.65	14.98
More than 11		18.05	18.05	22.01	22.47	24.23	25.55
No experience		32.60	30.40	23.79	22.03	20.70	13.22
No answer		9.69	8.37	7.49	5.73	5.73	4.85
Number		227	227	227	227	227	227

Sterilization

Almost three-quarters of the respondents have performed sterilizations. But only about 10 percent perform twenty or more per month. Whereas abortions are performed more by female than male doctors, sterilizations are done more by male doctors. Indeed, 94.3 percent of the male doctors have sterilized patients, whereas 69.2 percent of the female doctors have had this experience. Furthermore, the mean frequency of operations per month is 4.29 for male doctors, and 3.51 for female doctors.

The Korean government has issued special licenses to medical doctors for IUD insertion, vasectomy operations, and family planning guidance since 1962. The Health Center Director first recommends certain doctors to the Minister of Health and Social Welfare. Upon completion of a short-term course on family planning practices, the doctors are issued a license by the minister.

Of the respondents in this sample, 37.9 percent possess this license. The proportion is higher among rural doctors than among urban doctors. Also male doctors are more likely to have a license than female doctors. Frequency of sterilizations performed is much higher among those who possess the license, but medical doctors who do not possess the licenses have also accepted such cases. The government evidently does not discourage doctors without licenses from engaging in medical practices relating to family planning.

Conclusions

The purpose of this study was to examine the impact of the MCHL upon attitudes and actions concerning abortion. It was assumed, on the basis of the knowledge-attitude-practice model, that the impact of the law would be transmitted to action via knowledge and attitude. However, the results of the data analysis suggest that is not so.

First, even before the passage of the MCHL, most doctors had positive attitudes toward abortion, and had performed many without being inhibited by the Criminal Law which prohibited the practice. Second, as far as medical doctors are concerned, performing abortions does not necessarily affect their attitudes on the subject.

Five medical doctors in our sample had performed more than fifty abortions per week. All admitted they do have some guilt feelings regarding their activities. Even though they feel abortion is necessary for curbing population growth, they also think that the practice is harmful to the dignity of medical doctors whose main duty is to save lives.

Apparently, abortion is one of the most prosperous practices for medical doctors. For this reason, most doctors are engaged in the practice contrary

to their negative feelings. One doctor said she will stop after she expands her clinic to a satisfactory level with the money she earns from the practice of abortion. This statement demonstrates the ambivalent sentiment of many doctors concerning their attitudes on performing abortions. They have ample justification, but a sense of guilt lingers for at least some practitioners.

Many doctors think that the MCHL is not sufficient to warrant a safer abortion practice. Even before the passage of the MCHL, legal troubles could occur when clients complained about medical complications after the operation. The same complaints can cause doctors legal trouble since the new law does not protect them against unfair threats from clients. This critical attitude toward the MCHL is held by those who have a relatively high level of knowledge about the law. On the other hand, those who have relatively little knowledge about the law tend to overextend its scope. They think that the new law actually decriminalizes all induced abortions.

In spite of this ambivalent situation, the new law has encouraged many doctors to perform abortions more openly. Some larger hospitals which did not accept such cases before the law was passed now accept them. However, because so many were performed even before the law was passed, the legislation did not change the rate of abortions very much. For the time being, the MCHL will function by confirming after-the-fact the state of affairs, by relieving guilt feelings of some doctors, and by assuring them broader legal scope for performing abortions.

THE MATERNAL AND CHILD HEALTH LAW AND PUBLIC PROSECUTORS

Background Characteristics of the Public Prosecutors*

The question of abortion involves one's moral and religious values as much as one's familiarity with the law. Each of the public prosecutors in the sample was asked his religion. Twenty percent are non-Catholic Christians and only one prosecutor is Roman Catholic. Sixteen percent are Buddhists and the balance (62.5 percent) have no religion. About 13 percent of the Korean population are Christians.** Consequently, one may be struck by

*Korea has a national and unitary judicial system. All public prosecutors as well as judges and practicing lawyers receive the same kind of training, having to pass one national examination to join the profession. After passing the examination, they have to undergo a two-year apprenticeship training course under the supervision of the Supreme Court to be appointed to the Ministry of Justice, to the bench, or to become practicing lawyers. Though there are some individuals who join the profession only by passing the national examination without having any college education, most of the prosecutors, judges and lawyers have college backgrounds. All of our sampled 56 prosecutor-respondents received college educations.

**_The Korean Statistical Year-book_, 1975, Korea Gallup Statistical Institute.

the relatively large proportion of Christians in this sample. Since legal training as well as medical training is based on the study of modern or Western knowledge, Christians tend to seek professional careers more actively than non-Christians.

In Korea, both prosecutors and judges are generally much younger than practicing lawyers. After ten or twenty years of a judicial career, prosecutors and judges retire from the public service and become practicing lawyers. This age chracteristic of the prosecutors is reflected in this sample.

There is no prosecutor above the age of 47. Eighty percent of them are under 40, and 75 percent are in their thirties. All are male and all except two are married. (There are no female prosecutors in Korea.)

None has been in his position for more than 17 years. In fact, almost two-thirds of the respondents have had less than 10 years experience.

Thirty-nine of 65 percent of the respondents are working in the Seoul District Prosecutor's Office and the remaining 35 percent are working in Pusan, Daijon, Junju, or in Chuncheon.

Knowledge of the MCHL

When we measured the degree of knowledge of the prosecutors on the MCHL with the scale consisting of 25 items with a range from 0 to 41, the mean score turned out to be 18.95; the standard deviation was 7.2. Among the four groups of our respondents in this study, this group has the highest knowledge score, its standard deviation also being the largest. Considering their profession, their higher degree of knowledge of the law is natural, but it is interesting to note that this group has the widest dispersion in the knowledge score.

All fifty-six respondents have heard of the MCHL. But when they were asked if they knew the name of the law concerning the health of mothers and children, 78.6 percent named the MCHL, 7.1 percent said they had heard about it but failed to name it, and 14.3 percent said "no." When asked if they knew the name of the law on abortion, 17.9 percent named both the MCHL and Criminal Law, 57.1 percent named only the MCHL, 8.9 percent named only the Criminal Law and the remaining 16.1 percent answered "no."

The prosecutors were given 14 specific conditions and asked if the MCHL allows abortion under each of the conditions. As noted in Table 9, about 30 percent of the respondents apparently do not know whether or not it is allowed under specific conditions. A substantial number of prosecutors believes that abortion is not allowed when either of the parents is inflicted with a contagious disease. On the other hand, 53.6 percent of the respondents think that it is allowed when the mother's health is "bad" and 51.9 percent think it is allowed when the fetus is either deformed or morbid, although it is

Table 9
Conditions of Legal Abortions Under the MCHL

Specific Conditions	Under the MCHL	Right (%)	Wrong (%)	D.K. (%)
1) When mother's health is seriously threatened	Allowed	69.64	1.79	28.57
2) When either parent carries a hereditary disease, such as epilepsy	"	69.64	1.79	28.57
3) When pregnancy results from rape	"	64.29	5.36	30.36
4) When pregnancy results between those who are not legally allowed to marry	"	50.00	17.07	32.93
5) When either of the parents is inflicted with a contagious disease, such as whooping cough, malaria, dysentery	"	32.14	28.57	39.29
6) When either of the parents is inflicted with a contagious disease, such as typhoid fever, Japanese encephalitis, cholera	"	21.43	39.29	39.29
7) When the household is too poor	Not Allowed	62.50	7.14	30.36
8) When pregnancy is due to the failure of contraceptive measure	"	62.50	7.14	30.36
9) When there are too many children	"	62.50	7.14	30.36
10) When the birth interval is too short	"	60.71	7.14	32.14
11) When unmarried or widowed woman is pregnant	"	58.93	8.93	32.14
12) When pregnancy results from adultery or fornication	"	46.43	17.86	35.71
13) When mother's health is bad	"	16.07	53.57	30.36
14) When fetus is deformed or morbid	"	14.29	51.79	33.93

not allowed in either situation. Nevertheless, public prosecutors have the most knowledge about the MCHL among the four groups of respondents.

The respondents were asked about the legislative purpose of the MCHL. Twenty-six prosecutors (46.43 percent) said it is for the general health of the

mother and the child. The purpose of the law as specified in Article 1 of the MCH Law is to contribute to the promotion of the national welfare by protecting maternal life and health, and by securing a safe delivery and good care for children. The primary purpose of the MCHL, though not declared in Article 1 of the law, is believed to be legalization of abortion and sterilization under specific conditions. Thus, it is quite natural to mention sterilization (14 out of 56 respondents), abortion (12) and family planning (11) as the purpose of the law.

Attitude Toward Abortion

When the 56 prosecutors were asked about their attitude toward abortion, 76.8 percent answered favorably, 7.1 were neutral, and 16.1 percent were against it. Of those with positive attitudes, 70 percent felt that abortion is necessary for family planning and population control, and 23 percent said that it is necessary for the health of the mother. Of the nine prosecutors with negative attitudes, two said that abortion is injurious to the mother's health, six said it is morally wrong, and one felt that abortion is contrary to what he called "population policy."

To more fully grasp their attitude toward abortion, we asked whether abortion should be allowed under each of the fourteen circumstances previously listed. Response patterns are shown in the following table (Table 10). All the prosecutors think that abortion is justifiable when the mother's health is seriously threatened. The MCHL does not allow abortion when the fetus is deformed or morbid, but more than 94 percent of the prosecutors think that abortion should be allowed in this case.

As is true with doctors, the liberal attitude of prosecutors may be the result of their belief that Korean society is faced with a serious population problem. When asked if a population problem exists, 87.5 percent said that it is very serious, and the remaining 12.5 percent answered that it is somewhat serious.

Attitudes toward abortion and the MCHL are affected by religion. Buddhists and those who have no religious affiliation tend to be more liberal toward abortion than Christians, but the former are more positive about the MCHL.

Finally, attitude toward abortion has a strong relationship with knowledge of the MCHL. Since we do not have a valid way of comparing the attitude toward abortion before and after the passage of the MCHL, there is no sure way of determining causal direction between the two variables. But it seems reasonable to assume that greater knowledge of the MCHL tends to effect a more liberal attitude toward abortion.

According to the MCHL, a doctor may perform an abortion when a pregnant woman or her spouse suffers a eugenic or mental or physical disease. The law delegates the authority to define the kinds of eugenic or hereditary

Table 10
Attitude on Induced Abortion under Specific Conditions

Specific Conditions	Yes (%)	Neutral (%)	No (%)
When mother's health is seriously threatened	100.00	0.00	0.00
When pregnancy results from rape	94.64	1.79	3.57
When either of the parents carries a hereditary disease, such as epilepsy	92.86	1.79	5.36
When pregnancy results between those who are not legally allowed to marry	75.00	1.79	23.21
When mother's health is bad	64.29	1.79	33.93
When either of the parents is inflicted with a contagious disease such as typhoid fever, Japanese encephalitis, cholera	53.57	3.57	42.86
When either of the parents is inflicted with a contagious disease, such as whooping cough, malaria, dysentery	58.93	1.79	39.29
When the fetus is deformed or morbid	94.64	1.79	3.57
When pregnancy results from adultery	75.00	1.79	23.21
When unmarried or widowed woman is pregnant	67.86	0.00	32.14
When there are too many children	66.07	3.58	30.36
When household is too poor	50.00	5.36	44.64
When the birth interval is too short	42.86	7.14	50.00
When the pregnancy is due to the failure of contraceptive measure	37.50	1.79	60.71

diseases to the Presidential Decree, and the Decree states eight types of diseases.* A majority of the prosecutors agree with this law, but a significant

*Hereditary schizophrenia, hereditary epilepsy, hereditary mental retardation, hereditary hemophilia, mental disorder with criminal tendency, hereditary manic-depressive reaction, other hereditary diseases having a 10 percent or more danger of affecting the fetus, and hereditary locomotor sensory ataxia or psychomotor disorder.

number are critical of the law for some of the diseases included: Hereditary manic-depressive reaction, other hereditary diseases having a 10 percent or more danger of affecting the fetus, and hereditary locomotor sensory ataxia or psychomotor disorder.

When the prosecutors were asked the effects they think the MCHL will have, half answered that it will enhance public health; 41.1 percent said that it will contribute to cutting down population increase; 7.9 percent said that it will help maintain social order, and only one respondent thought that the law will erode sexual morality.

At least six respondents felt that the scope of legal justification for abortion provided by the MCHL is too narrow and suggested it be widened so that the law can contribute to curbing population growth, relieving economic burden for the parents, protecting society from hereditary diseases, and protecting certain females from disgrace. Some indicate that the law does not clearly define a legal abortion. Others suggest that the law should make the punishment for illegal abortions clearer so that legal ones are not abused.

Prosecution of Criminal Cases of Induced Abortion

Among the fifty-six prosecutors, 59 percent have had experience handling criminal cases of abortion, seven of them after the passage of the MCHL.

When we compared prosecutors who have handled abortion cases with those who have not had this experience, in terms of age, duration of service, knowledge concerning the MCHL, attitude toward induced abortion, and attitude toward the MCHL, it is found that those with experience are generally older and have served longer than those who did not have the experience. There is no significant difference between the two groups in terms of other variables. This lack of difference is understandable if we consider that taking a particular case has nothing to do with personal opinions of prosecutors. A prosecuting attorney in Korea is a member of a legal hierarchy headed by the Attorney General in charge of carrying out prosecution. He is subject to commands and orders of his superior attorneys, and attorneys in the upper hierarchy of the office may give orders to and direct any subordinate prosecuting attorneys on a specific case. When the head of the prosecutors' office receives criminal cases from police departments, he randomly assigns the cases to prosecutors.

We asked respondents if they were willing to prosecute women and doctors for abortions not allowed by the MCHL. As for the women, 39 percent of the respondents said that they would prosecute, 45 percent said no, and 16 percent felt that the factual circumstances should govern the case. In the case of doctors, 45 percent answered that they would prosecute, 41 percent of them said no, and 14 percent were uncertain.

Sterilization

Prosecutors were asked if they knew the conditions specified by the MCHL under which the Minister of Health and Social Affairs can order sterilization. About half were familiar with some of the conditions. The others had no knowledge of the conditions. After the provisions of the law were explained, 80 percent expressed favorable attitudes toward the sterilization provision, but four prosecutors objected, asserting that the law is against natural human rights and dignity.

At least thirty of those who were favorable indicated that sterilizations for those who have eugenic or hereditary diseases are necessary for the social welfare as well as for the individual wellbeing of the possible parents.

According to Paragraph 3 of Article 9 of the MCHL, when a person who has received a sterilization operation order from the Minister of Health and Social Affairs is dissatisfied with the order, he or she may institute administrative litigation for withdrawal of the order within two weeks after he receives the mandatory notice. When the prosecutors were asked if they knew the procedure to litigate against the order by the Minister, none gave clear answers. When asked about their attitude on Paragraph 3 of Article 9 of the MCHL which specifies the procedure, after being informed of its existence and its purpose, 87.5 percent of the prosecutors expressed favorable attitudes, saying that the subject should have the chance to express his objection against the order; that the provisions are indispensable to preserve human rights; that it is necessary to give due legal rights to the subject; or that it is necessary to handle the case more prudently.

When a physician finds a patient with a disease defined in Paragraph 2, Article 3 of the Presidential Decree and thinks that a sterilization is required in the public interest of preventing transmission of the disease, he has to report the case immediately to the Health Center Director in accordance with the specified form. But the law does not specify any penalty for the violation of this duty to report, nor is there any precedent for this case.

Almost half of the prosecutors are willing to prosecute medical doctors who fail to report the person who should undergo a sterilization operation, 36 percent would not, and 16 percent feel it depends upon each circumstance. It is surprising to find that almost half of the respondents think that doctors should be punished for failing to report the case. Perhaps many prosecutors think it is mandatory for doctors to report such cases, and that it is their duty to prosecute the cases when they are assigned to them.

Conclusions

At the outset of this project, it was anticipated that prosecutors might be the most difficult target group to interview; this anticipation was confirmed throughout the research. For example, only 47 percent returned the ques-

tionaires. Furthermore, it was extremely difficult to make appointments for in-depth interviews. The lack of cooperation is partly due to their heavy work load and the nature of their social position. But the main reason is that the abortion problem is not a significant issue in the minds of the prosecutors.

Under Grundsatz der Einheitlichkeit der Staatsanwaltschaft, a prosecuting attorney in Korea is a member of a comprehensive hierarchical body headed by the Attorney General when carrying out the function of prosecution. Because of this principle, individual prosecutors have little power as far as general law enforcement policy is concerned. The kind of crime to be strictly controlled is largely determined by the Attorney General, who seems to have been discouraging attorneys from prosecuting abortion cases even before the promulgation of the MCHL. The decision to prosecute or not prosecute the suspect in a particular case assigned to him, however, is totally within the judicial discretion of the individual prosecutor. Public prosecutors' positive attitude toward abortion is reflected by the fact that the rate of prosecution to the total number of abortion cases delivered to the public prosecutor's offices is only 39 percent for the past ten years, whereas the rate for total crimes for the same period is 65 percent.

The major problem is that a majority of abortions are still punishable even under the MCHL. According to the law, a doctor may legally perform an abortion under the following five conditions: 1) When a pregnant woman or her spouse suffers a eugenic or mental or physical disease, 2) when a pregnant woman or her spouse suffers from an infectious disease, 3) when a woman becomes pregnant by a rape or a quasi-rape, 4) when the pregnancy results from sexual relations with relatives or family members for whom marriage is prohibited by law, and 5) when the continuation of pregnancy is considered to be severely damaging to the mother's health or is likely to damage her health. Among the 1,543 married women interviewed, 453 women or 29.37 percent have had one or more abortions. Only 13 percent of these 453 have had abortions which can be considered legitimate under the MCHL. In other words, more than 80 percent could be punished according to the law.

This situation is disturbing for doctors who perform abotions since the possibility of being charged for the crime of abortion is totally within the discretion of law enforcement officials. When prosecutors were asked if they have any specific professional guidelines for exercising their discretionary power, none presented any convincing principle. So far, there have been few cases in which law enforcement officials took advantage of the situation to extort anything from doctors who practice abortion. But, as long as the gap between the law and reality concerning abortion exists, the possibility of the prosecutors' misused discretion remains.

Most prosecutors are aware that public opinion in Korea favors family planning and population control and that policy on abortion should be established accordingly. But individual awareness has little power over their judicial discretion unless it is developed into some more concrete form of group awareness. Thus it is desirable that leading members of the hierarchical body of law enforcement officials express their opinions more openly on legal policy toward abortion.

THE MATERNAL AND CHILD HEALTH LAW AND FAMILY PLANNING FIELD WORKERS

Background Characteristics

There are two kinds of family planning workers in Korea: Senior family planning workers at health centers in each Kun and family planning field workers in each Myon office. In urban areas, however, all work at health centers of each Ku which is administratively equivalent to Kun. Senior family planning workers spend most of their time in administrative work and supervising field workers. Family planning field workers engaged mostly in IE & C (Information, Education and Communication) work on family planning, the distribution and after-care service of contraceptives, and other administrative work.

All family planning field workers in Korea are female. Of 148 interviewed, 76, or 49 percent, work in urban areas. More than two-thirds of the respondents are under 30 years of age. Fifty-two percent are single. Their level of education is much higher than that of the average Korean woman. All are at least graduates of middle schools and more than two-thirds are high school graduates. Since the government requires that family planners be qualified as a nurse, midwife, or aid-nurse, most are supposed to have one of the licenses for the above practices. However, eleven workers among our 148 respondents do not have any such license. They are temporarily employed under the condition that they will receive short-term training to become aid-nurses. The aid-nurse family planning workers, the modal category for our sample, are mostly high school graduates who have had aid-nurse training.

Twenty-four percent of our respondents have worked less than one year, and since they were employed after the passage of the MCHL, this group cannot be relevant for a before-after comparison. The religious background of our respondent-workers differs a little from the general population. The proportions Protestant and Catholic are 21 percent and 10 percent, respectively, which are relatively higher than for the general population. Of 148 respondents, 85 percent reported that they have never received education or training related to abortion. Only twenty-two workers had received education on abortion mainly from the Korean Institute for Family Planning.

Knowledge of the MCHL

"Do you think Korean women can have abortions whenever they want to?" Eighty percent of the workers answered "no" to this question for such reasons as legality of abortions, health of the mother, and morality. When they were asked if they thought abortions are now done more or less than two or three years ago, 53 percent said they think frequency has increased, 27 percent think it has decreased, and the remaining answered that it is about the same.

We asked the workers to rank the places where most induced abortions are performed. Two-thirds think that obstetricians and gynecologists perform the most abortions, and about one-third of them feel the general practitioner performs the most.

It is surprising that a majority of the family planning field workers are ignorant of the legal status of abortion under the Criminal Law. Only 6 percent knew that it is a crime under the Criminal Law, 63 percent thought that the law allows abortions under certain circumstances (the law does not specify any), and 24 percent thought that abortion is not a crime under the Criminal Law.

The workers' knowledge on the various aspects of the MCHL was measured. A majority of the workers understand the nature of the MCHL to some extent, but about 14 percent do not understand or misunderstand it. As for the purpose of the law, about 17 percent of the workers had erroneous knowledge.

Less than half of the respondents know the exact date when the MCHL took effect. As to the time limit allowed for abortion, only 16 percent gave the correct answer: Twenty-eight weeks of gestation. Sixty-two percent thought the time limit was three months.

We again listed specific conditions under which abortions could be performed and asked the respondents whether abortion is legal in each of the cases under the MCHL. As shown in Table 11, more than half of the respondents gave correct answers for most of the cases. The proportion giving correct answers is exceptionally low in three instances: When an unmarried or widowed woman is pregnant, when the fetus is deformed or morbid, and when pregnancy results from adultery. In general, the proportion of the respondents giving correct answers is higher for those cases in which abortion is allowed. Since the law specifies the conditions under which abortion is allowed, the workers might have had more accurate knowledge for those cases. An alternative explanation might be that the scope of legal abortion perceived by the respondents is wider than it is in reality. It should be noted, however, that a considerable proportion of the respondents still have no exact knowledge as to the legality of abortion for each of the stated situations.

Table 11

Field Workers' Understanding Conditions of Induced Abortion Under the MCHL

Specific Conditions		Right (%)	Wrong (%)	D.K. (%)
When mother's health is seriously threatened	Allowed	87.0	4.8	8.2
When mother's health is bad	"	62.3	21.9	15.8
When pregnancy results from rape	"	63.0	16.1	20.0
When pregnancy results between those who are not legally allowed to marry	"	62.3	15.1	22.6
When either of the parents is inflicted with a contagious disease, such as typhoid fever, Japanese encephalitis, cholera	"	53.4	24.7	21.9
When either of the parents is inflicted with a contagious disease, such as whooping cough, malaria, dysentery	"	61.6	19.9	18.5
When either of the parents carries the hereditary disease, such as epilepsy	"	76.0	10.3	13.7
When unmarried or widowed woman is pregnant	Not allowed	26.7	44.5	28.8
When fetus is deformed or morbid	"	4.1	79.5	16.1
When pregnancy results from adultery	"	27.0	47.3	23.7
When there are too many children	"	52.7	29.5	17.8
When the household is too poor	"	55.5	24.7	19.8
When the birth interval is too short	"	53.4	26.7	19.9
When pregnancy is due to the failure of contraceptive	"	52.1	28.8	19.1

When asked if there was any difference between the Criminal Law and the MCHL in dealing with abortion, only 6 percent correctly stated that the MCHL is the more lenient. The remaining 94 percent were ignorant of any change in the legal status of abortions.

On the whole, most of the family planning field workers have heard of the MCHL and understand the nature and the purpose of the law to some extent. However, their knowledge on specific contents of the law is not adequate, considering that the law is closely related to their ordinary activities.

Attitude Toward Abortion

Abortion is not considered a method of family planning in the national population program of Korea, although many women have relied on it for limiting their family size. More emphasis is placed on contraceptive methods, such as the IUD, pill, sterilization, and condom. Family planning field workers are supposed to encourage people to use one of those contraceptive methods rather than to get an abortion. When the respondents were asked which contraceptive method is the most popular one among Korean women, 66 percent of them named IUD, 31 percent the pill, and the remaining 3 percent mentioned other means of contraception. We then asked which of the following three methods will be the most popular among Korean women when they decide not to have any more children—contraceptives, abortion or sterilization. Fifty-seven percent of them named contraceptives, 41 percent named sterilization, and only 3 percent named abortion. Evidently, most family planning field workers think that abortion is not popular as a means of family planning. As we have seen, abortion is not permitted for the purpose of family planning even under the MCHL. This background information helps to understand the attitudes of family planning field workers toward abortion.

Half the respondents disapprove of abortion. The family planning field workers are the most conservative group among the four groups in this study. The most predominant reason for approving abortion is that it will contribute to population control, whereas the most predominant reason for disapproving it is health of the mother and morality. None of the 74 respondents who object to abortion mentioned illegality as a reason for their objection.

We asked the workers whether abortions should be allowed under each of the fourteen circumstances we have provided, regardless of whether it is permitted under the MCHL. A majority of the respondents approved it in all cases. Rates of approval are generally higher in those cases where abortion is allowed under the MCHL. Even when abortion is not allowed under the MCHL, however, the rate of approval for abortion is high in the following three areas: 1) When unmarried or widowed women are pregnant, 2) when the fetus is deformed or morbid, and 3) when pregnancy results from adultery. It is interesting to note that the workers' attitude is much more favorable for specific circumstances than in general terms. If their conservative

attitude is liberalized due to the circumstantial factors, this attitude may be more lenient than is expressed in general terms.

After receiving a brief description of the nature and purpose of the MCHL, respondents were asked what they thought of its enactment. Since respondents are employed by the government, we can hardly expect them to admit to negative attitudes toward the law. As expected, 95.3 percent of the respondents approved of its enactment. As for the reason for their support, 31 percent of the 141 respondents who approved of the MCHL think that the law will contribute to enchancing public health, 23 percent that it will contribute to population control, and 14 percent think it gives medical doctors more professional discretion for their practices. The remaining 32 percent failed to specify any reason. When they were asked if the passage of the MCHL will exert any influence upon the contraceptive practice of women, 42 percent of them answered that women will adopt contraceptive measures more often, 16 percent of them answered that women will not adopt contraceptives, and the remaining 42 percent said that there will be no significant change in the contraceptive pattern due to the MCHL.

Practice: Activities of the Family Planning Field Workers

The major activities of the family planning field workers are to counsel eligible women about health and family planning, to distribute contraceptives, and to influence women not wanting to have more children to adopt permanent means of birth control. The workers should open channels of communication with eligible women, who are passive in the matter of family planning. Success or failure of the workers in their performance largely depends upon how they are received by the people in the area.

Home-visiting is one of the major activities of workers in the field, which is conducted to counsel eligible women on general health problems and family planning and to distribute contraceptives. More than two-thirds of the workers spend, on the average, more than 15 days a month home-visiting, most of them usually counseling more than five women a day.

To determine if the workers put any priority on counseling for abortions, we asked them to rank various items of work. Most put the lowest priority on counseling for abortion. Abortion is not included in their target system, and family planning workers put more emphasis on contraceptive methods such as the pill, the IUD, and vasectomy.

We then asked if workers have had any experience counselling on abortion both before and after the passage of the MCHL. The frequency of consultation on abortion increased noticeably after the passage of the MCHL. As to the nature of the consultation, most women asked the field workers about the possibility of getting an abortion, and the workers responded passively to the question by indicating the scope of legal abortions

and possible medical complications due to the operation. The response of the field workers was rather discouraging, but it has become more positive since the passage of the MCHL. Field workers are not in a position to introduce abortion as a means of family planning. As has been mentioned, the scope of legal abortion is still limited even under the MCHL. Many women want to get abortions to control the number of offspring, which is not allowed under the MCHL.

At least 6 of the 148 respondents said they have received direction from the government concerning abortions. They were directed to introduce this option for poor women who desire it when it is legally permissible. But no respondent admitted suggesting that women have abortions, whether legal or illegal.

Frequency of consultation on abortion is strongly related to other factors. Buddhists tend to be more willing to discuss abortion in the course of their counseling. The older the field workers, the higher the frequency of consultation. Correlation between knowledge of the MCHL and frequency of consultation is high as is attitude toward abortion and frequency.

When we recall that most field workers did not initiate discussion on abortion but merely responded to inquiries, we cannot interpret these relationships as causal. Contrary to our expectation that the MCHL may have changed the nature of counseling in the direction of condoning, if not encouraging, abortion as a means of family planning, no field worker suggested abortion for such a purpose.

Sterilization

Sterilization operations, particularly vasectomies, are the most emphasized target for the family planning field workers in Korea. The target system governing the activities of the workers include, without exception, the number of sterilizations to be attained in their jurisdiction. The sterilization emphasized by the workers, however, differs from that dealt with in the MCHL. The field workers persuade the clients to undergo sterilizations for family planning purposes, whereas the MCHL provides sterilizations to control eugenic diseases. Thus, when workers encourage voluntary sterilization as a permanent means of family planning, their activities are guided by governmental policy, and not based upon the MCHL.

Over half the 148 field workers were ignorant of MCHL having anything to do with sterilization. Only 22 percent named the MCHL when asked to give the name of the law concerning sterilization operations. Another 26 percent said that there seems to be some kind of law regulating sterilization, but failed to give its name. When asked about the conditions specified by the MCHL under which the Minister of Health and Social Affairs can order sterilization, 68 percent answered that they knew nothing about them and 19 percent had fairly accurate knowledge of them.

Canvassing voluntary sterilization is one of the major tasks of the family planning field workers, but it is confronted with many difficulties. Fifty-one percent mentioned that they had difficulties in trying to induce subjects to be sterilized—especially vasectomies. Considering Korean traditional culture which makes it particularly difficult for a female to discuss sex-related problems with males, we can imagine the awkward position of the family planning field workers when they try to induce males to get vasectomies. But most workers report that the cultural difficulties are overcome to some extent. Surprisingly enough, when the subject relates to family planning, Korean rural culture is quite tolerant of open discussions on sex problems.

When the field workers were asked the kind of difficulties they had when they were counseling on sterilization, 22 percent answered that they did not have enough confidence about the safety of vasectomy when they tried to induce male subjects. Some of the workers did not have sufficient medical knowledge to ensure their confidence and others worried that the poor medical facilities in rural areas could not ensure safe operations. Medical facilities for the operation should be greatly improved, and the workers should be educated on the nature of vasectomy so that they can discuss it with more confidence.

Conclusions

Contrary to our initial expectation that family planning field workers are deeply involved with abortion, it was found that consultation about abortion has been given the least priority. Workers have the most conservative attitude toward abortion among the four target groups in the present study. They do not consider abortion as a means of family planning and few ever consult about it. In most cases they respond to the request by women who want to know something about abortion. Before the passage of the MCHL, they tended to discourage the client to resort to abortion, but the tone of discouragement has abated since the law passed.

Considering that a majority of the field workers erroneously thought that abortion was not a crime even under the Criminal Law, and few of them knew that the MCHL handles abortion more leniently than the Criminal Law, it is difficult to assume that the slight change in response to the question on abortion results from the passage of the MCHL.

A substantial proportion of the family planning field workers (27 percent) thought that the frequency of induced abortion in Korea has been decreasing whereas the trend perceived by the medical doctors is that it is increasing. This may indicate that the workers are not in the best position to grasp the real trend of induced abortion in Korea.

So far the family planning field workers have not deeply committed themselves to the issue of induced abortion mainly due to the nature of their official status. But they are in the best strategic position, at least in rural

areas, either to encourage or to discourage women to have abortions. Since they are in the position to be frequently consulted on the matter, family planning field workers should be properly educated as to the legal status and the medical nature of induced abortions.

As was indicated, the major activities of the family planning field workers are to counsel eligible women for family planning, to distribute contraceptives, and to induce women to adopt permanent means of birth control for those who do not want to have any more children. Thus, the success or failure of a family planning program largely depends upon the activities of the family planning field workers. We did not include items concerning their work conditions in this questionnaire, but we shared discussions through in-depth interviews with several workers. Since extensive studies on administrative status and working conditions of personnel at various levels of the national family planning program have been done elsewhere,* it will suffice to add here that, compared with the importance and difficulties of their role, their work conditions should be significantly improved.

GENERAL DISCUSSION AND POLICY RECOMMENDATION

Problems and Limitations in the Present Study

The original schedule of 51 weeks to finish the project was originally thought to be reasonable. There was no significant setback in the above schedule up to the point of data collection. Once the data were collected, the work of analyzing and preparing the report depended solely on the intellectual concentration of the main researchers. This work has proven to be considerably more than a part-time assignment, and was difficult to accomplish as the present researchers also have full-time duties as faculty members of Korean universities. The report therefore is the product of a painful compromise between quality and credibility of the researchers on one hand and a rigid time schedule on the other.**

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*Republic of Korea. 1969. *Family Planning Workers' Status Survey*. National Family Planning Evaluation Unit, Ministry of Health and Social Affairs.

**This grant was not given to a professional research institution with full time officials and interviewers, but to individual scholars doing cooperative work on a given theme. Effective cooperation among the scholars who have their own heavy regular duties was not easily attainable. Most difficult for non-institutional projects of this scale, however, is the securing of qualified interviewers and research assistants for such short periods of time. Qualified professional interviewers are not numerous enough in Korea for this sort of field research. We recruited some female graduate students to work along with an equal number of older women. Several orientation sessions were held, and the interviews were done under the close supervision of the principal researchers. Still we are not fully confident about the quality of the data collected by these temporary interviewers.

The cooperation of respondents depends largely on the enthusiasm, patience, and skill of the interviewers. But some fundamental difficulties could not be overcome by the ability of the interviewers alone.

This study contains key variables which should have been measured by more reliable scales. We have constructed scales for the purpose of measuring the degree of exposure to mass media, degree of knowledge of the MCHL, attitudes on the use of contraception, abortion, and the MCHL. Apart from their face validity, we cannot adequately measure their validity and reliability.

The data analysis and the preparation of the report should go together and computer facilities should be available. But such facilities for social scientists in Korea are not to be found. In the course of completing the report, we were curious about the nature of relationships among some particular variables when others were controlled, but we could not satisfy our curiosity due to the obvious limitations imposed upon us.*

Comparisons of the Four Target Groups

Knowledge of the MCHL. The degree of knowledge about the MCHL and other laws for the four target groups in the present study is shown in the following table (Table 12), based on the appropriate scales used in the respective section. Even though direct comparison among the four groups is impossible due to the difference in the scale ranges, the family planning field workers have a higher level of knowledge than the women, and public prosecutors have slightly more knowledge than do medical doctors in the case of the MCHL. As for the knowledge on various laws, however, the prosecutors are much more knowledgeable than other groups as would be expected. Public prosecutors have the most positive attitude toward the MCHL, while doctors harbor a less positive view (Table 13).

Attitude toward abortion. Family planning fieldworkers have the least positive attitude, while the public prosecutors have the most positive attitude toward abortion. The workers may be reluctant to accept abortion as a means of family planning. But the reason why the prosecutors tend to have a much more positive attitude needs to be more fully explored. Since the sample size for this group is small, it is doubtful whether this fact can be generalized to all prosecutors (Table 14). When we compared the four groups in terms of the attitude toward abortion which was measured by a

*Women in rural areas, for example, were very difficult to interview. Most medical doctors could spare very little time for interviews. Since the data for the public prosecutors and the family planning field workers were collected by mailed questionnaires, return rates were low and when defects were found in the returned questionnaires, little could be done. Finally, writing the report in English has been a heavy burden for us. Fluent reasoning and effective expression in English are more difficult for us than if the work had been done in our mother tongue.

Table 12
Degree of Knowledge of the Laws

		Women	Doctors	Workers	Prosecutors
MCHL	Scale Range	0 – 37	0 – 42	0 – 37	0 – 41
	Mean	6.89	17.96	15.53	18.95
	S.D.	5.54	5.86	5.17	7.20
Other Laws	Scale Range	0 – 30	0 – 35	0 – 35	0 – 35
	Mean	3.61	12.57	11.66	17.96
	S.D.	3.39	4.33	4.42	4.74
Number		1,542	227	148	56

Table 13
Attitude toward the MCHL

	Percentage				
	Women		Family Planning Field Workers	Medical Doctors	Prosecutors
	Rural	Seoul			
Agree	70.41	71.54	95.27	77.09	91.07
Neutral	26.76	23.93	2.03	22.47	8.94
Disagree	2.84	4.51	2.70	0.44	—
Number	811	731	148	227	56

Table 14
"Do you agree with Induced Abortion?"

	Percentage				
	Women		Family Planning Field Workers	Medical Doctors	Prosecutors
	Rural	Urban			
Agree	61.16	52.12	34.46	70.04	76.80
Neutral	20.96	17.78	15.54	22.91	7.13
Disagree	17.88	30.10	50.00	7.05	16.07
Number	811	731	148	227	56

scale, the workers' attitude became relatively more positive (Table 15). This may be due to the fact that the workers' attitude is much conditioned by circumstantial factors. That is, even though they oppose abortion in the abstract sense, their attitudes became less negative when concrete circumstances were given. Table 15 shows attitude differences among the four groups under specific conditions. Although the attitudes of rural women are rather conservative, no other particular trend is observed.

A majority of the respondents think that Korea has a population problem. But 10 percent of the rural women thought there is no population problem in Korea and another 10 percent were not sure of the situation.

Most public prosecutors think the incidence of abortion is increasing, while relatively fewer medical doctors think so. Most family planning field workers think the incidence of sterilization operations is increasing, while relatively fewer rural women think so.

Table 15
Attitude toward Induced Abortion

	Women	Doctors	Workers	Prosecutors
Scale				
Range	1–17	0–17	1–17	1–24
Mean	12.47	12.67	14.26	17.13
S.D.	4.14	4.15	2.94	4.42
Number	1,542	227	148	56

Discussions

Long before the enactment of the MCHL, abortion had been widely practiced in Korea, and the present study sees no evidence that the law contributed to any increase in that number. Even though the MCHL widened the scope of legal justification for induced abortion, the law fails to confer legality upon most of the abortions that are economically motivated.

Since this project was initiated, the Ministry of Health and Social Affairs has been promoting its plan to amend the MCHL to include socioeconomic factors under which an abortion may be legalized. Efforts of the ministry are strongly supported by "Kongwha-dang," the ruling political body of Korea, and the government and the party jointly proposed the bill and made it public in April of this year. Though the proposal has been criticized in both the National Assembly and the mass media, the bill will probably be eventually enacted either as an amendment of the MCHL or through the repeal of the relevant provisions of the Criminal Code. The government, realizing that population problems will be aggravated in the 1980s, has felt a greater need

to initiate a stronger family planning project, and its intention in that direction was manifested in the Fifth Five-Year Economic Development Plan which came out in June of this year.

Attitudes toward abortion are quite liberal among the four groups studied in this project, and this can be generalized to the people of Korea except for minority religious groups. There is no sign that this liberal attitude is the product of the MCHL. The present research leads us to the conclusion that the MCHL has not had any impact thus far. We believe that the main reason for the failure of the law to produce any noticeable impact is that the legislative intention of the law was either unclear from the beginning or poorly embodied in the law.

The law has lagged behind changing reality, and the MCHL, we think, was not intended to lead the public but to concede to actual conditions. Even the latter purpose, however, is not realized. The MCHL failed to legalize most of the abortions currently performed in Korea. If the intention of the law was to justify what already is in fact, then it is natural to find that the law has had no impact.

Whether induced abortion should be legalized for the purpose of family planning is not directly relevant to the present study. This is not an empirical but a philosophical question. But if we are allowed to state our opinion, we think that however induced abortion contributes to population control, neither the government nor any social agents should encourage it as a means of family planning or for any other purpose.

Among the four groups studied, doctors have the deepest concern over the legal status of abortion. They express fear of being harrassed by the criminal law because they perform abortions—this despite the changes that came with the MCHL. Despite their dissatisfaction with the MCHL, however, there is evidence that the new law has encouraged many doctors to perform more abortions than previously.

Since most abortions are still outside the scope of legal justification, the issue is of concern to public prosecutors. Most prosecutors are aware that public opinion favors family planning and that the government pushes hard for population control. Furthermore, most of them have liberal attitudes toward abortion. But individual awareness of the facts has little binding force on the exercise of their discretionary power unless it is developed into some more concrete form of group awareness and professional norm.

The present study found that among the four groups in this study, family planning field workers have the most conservative attitude toward abortion. Partly due to their conservative attitude, and partly due to the fact that abortion is never considered officially as a means of family planning, few workers ever suggested abortions to their clients. Notwithstanding, their ignorance of the legal status of abortion is surprising. Even though they are

not in a position to encourage or discourage abortion, the issue inevitably occurs in the context of family planning. Considering that they are the agents who have wider contacts with the women of childbearing ages, the workers are in the best strategic position to control abortion. Still, we think that the government has rather ambivalent attitudes on the topic. Suffice it to say that whatever line the government takes, the family planning field workers are in the best position to disseminate what the government wants to convey to the women.

Policy Recommendations

It is difficult to make specific recommendations on the basis of the finding that the Maternal and Child Health Law has little impact on attitude and actions concerning abortion. The nature of this study may not be suitable for producing fruitful recommendations. But the following points are worth considering by policy-makers. (Due to the nature of this project, these points are not necessarily based on the specific findings of the study.)

- We think it necessary to clearly define the social nature of abortion through public debates by religious leaders, lawyers, medical doctors, and others deeply concerned with the issue. Clarification of the social nature of abortion will help the government to formulate its position on the issue.
- The government should not interfere in the matter of abortion by legal control. We think it desirable to abolish all legal provisions which propose to punish abortion, making the issue legally neutral.
- It should be made clear, however, that abortion cannot be considered as a means of family planning. The government should not encourage it for the purpose of population control.
- Once the issue of abortion becomes legally neutral, it should be made into an important issue of professional ethics for medical doctors. The Ministry of Health and Social Affairs should encourage the medical association to make abortion such an issue.
- Medical doctors should be given the privilege of handling abortions according to their own code of ethics.
- If the provisions in the criminal law which punish abortion cannot be repealed, there should be some clear guidelines for law enforcement officials so as not to abuse their discretionary power. Thus, it is desirable that the members of the hierarchical body of law enforcement officials express their opinion more clearly concerning the policy on abortion through official channels.
- For the purpose of more effective family planning, vasectomies and other permanent means of birth control should be encouraged. The family planning field workers should work harder to encourage people

to adopt the permanent means by attempting to eliminate the apprehension still lingering in the minds of the people that the operation may have ill-effects. Public health officers should handle the task of operation more carefully in order to minimize possible ill-effects.

Population Studies in Kenyan Secondary Schools

Kathryn Horsley

Abstract

The study is an examination of student and teacher awareness of population trends and their attitudes toward population and development policies. The author concludes that the best approach for giving students the knowledge and skills needed to evaluate the validity of arguments and assumptions about Kenya's population policy is to offer them opportunities to plan development for their own communities.

In January 1973, Kenya's Minister for Education, The Hon. Taita Towett, made the following statement:

> It appears to me that there may be no alternative to giving Population Education as a part of our formal education. So far, family planning administrators have been dealing with the problem directly with the adults. However, many of the adults were mostly unprepared to make a cultural change and surely but rightly were unprepared to accept such innovations in their social system. On the other hand, when Population Education is introduced in the formal education structure, it is neither biased nor action-motivated, and therefore it may be agreeable to students . . . It has also the means to reach the majority of the population within a very short period. When children who have had a course of these studies grow up, they may even demand family planning advice

Note: The recommendations in this report were coauthored by Ms. Horsley and Dr. Albert Maleche, Ag. Director, Bureau of Educational Research, University of Nairobi. ICP social scientist Roy H. Haas helped prepare this report for publication. Correspondence to Ms. Horsley should be directed to the Bureau of Educational Research, University of Nairobi, P.O. Box 30197, Nairobi, Kenya.

> on their own because they are already aware of the problem resulting from pressures of population, such as of employment, urbanization and environment. (Towett 1973)

Other government officials attending the workshop at which this statement was made went on to recommend curriculum development in three broad areas of population studies—population education, family planning education, and sex education. The group also recommended research into the extent of the learner's knowledge in these areas so that curriculum development might proceed on the basis of where the learner is.

Since this group met in 1973, research has been undertaken in Kenya in the area of the knowledge and attitudes of youth concerning family life and sex education (Gachuhi 1973). Moreover, several groups of primary and secondary level teachers have attended workshops and conferences aimed at motivating them to teach their students the individual and family benefits of family planning (National Christian Council of Kenya 1976).

The negative side of the coin is that only education concerning the individual and family has received attention. There has been little activity on population issues relating to the individual's environment—the village, community, city, province, nation. This larger context in which individual decisions on family size are made is particularly important because a distinguishing goal of population education is developing an understanding of the relationship between individual and family decisionmaking and population issues. Individual actions have social implications, and informed decisionmaking requires an awareness of the consequences of the decision for the individual, his community, and the nation.

Decisionmaking in this broader environment, with all its implications for citizenship behavior, community planning, and national policymaking, captured the interest of the Bureau of Educational Research and prompted our investigation into the desirability of offering population studies in the formal school system.

Current Government Policy

Despite the endorsement of the Minister of Education, the Kenyan Government has no explicit policy concerning population education for the young. Several reasons for the government's reticence in this area might be offered. First, as long as population education is perceived as a euphemism for birth control or family planning education, it is unlikely to gain either parent or government support. Similarly, it must not be thought of as a program to persuade individuals to have a particular size family. Such indoctrination is considered inappropriate for an educational setting.

Moreover, population education must be seen in a broader context where not just the elites, but youth as a whole, are given the knowledge and skills to evaluate the assumptions and arguments behind Kenya's existing or proposed population policies. A definition of population which fits this broader context has already been articulated by Stephen Viederman (1974):

> An educational process which helps the individual (1) to learn the probable causes and consequences of population processes for himself and his communities; (2) to define for himself and his communities the nature of the problems associated with population processes; and (3) to consider the possible means by which the society as a whole and he as an individual can respond to and influence these processes in order to improve the quality of life now and in the future. (p. 6)

Such an educational process will include many issues besides population: Local, national, and international economics; the changing role women play in society; and traditional versus modern culture. These and other relevant issues should make up what is defined as population education.

The reasons for supporting this kind of population education include: 1) Individuals and families can be helped to make rational decisions about basic aspects of their lives. 2) People can have more control over their own wellbeing once they are helped to understand the relationship between population and the economy, the distribution of wealth and resources, cultural practices, and so forth. 3) The country is protected from intervention on population matters by foreign interests by informing its own citizens of the issues related to population.

THE STUDY

In anticipation of increased population education activity in Kenya, particularly in the areas of teacher training and development of educational materials, we undertook a survey of students and teachers. The primary purpose of the study was to find out what the well-educated youth of Kenya already know about population trends and what their attitudes are on a variety of related issues. By evaluating such student characteristics, educators can begin to determine whether population education is desirable, and if so, with what objectives and in what form.

The specific purpose of the study was to answer the following questions:

Students

- What do students know about population characteristics and change?
- What do students perceive to be the overall range of community or national problems, and how, if at all, do they relate population factors to the definition and solution of these problems?
- Do students perceive population change as a problem?

- What are student attitudes towards various development policies: Wealth redistribution, family planning, employment, changing sex and family roles, and so forth?

Teachers

- What do teachers know about population characteristics and change?
- Do teachers believe instruction in population dynamics, development, environmental, and health problems should and can be integrated into the curriculum?
- Under what circumstances are teachers interested in discussing these issues in the classroom?

STUDY DESIGN AND METHODOLOGY

The Sample

The data are based on a sample survey of Kenyan high school (Form 6) students and secondary level teachers. Questionnaires were distributed to students and teachers at 33 different secondary schools throughout six of Kenya's seven provinces (there are no high schools in the seventh province). A random sample of clusters (classes) was selected, stratified by the six provinces plus Nairobi, by sex of students and by major subject orientation of the classes—arts or science. Cluster sampling was used to take advantage of many respondents gathered in one location, that is, the classroom. However, a larger sampling fraction was then required. The final sample included 48 classes from 33 schools, giving a total of 1,338 respondents.

There was no real sampling of teachers. Questionnaires were simply distributed to all teachers available at each school on the day of the research team's visit, and 391 teachers from 32 schools responded.

The Instruments

Two different questionnaires were used—one for students and the other for teachers (although questions concerning demographic knowledge, and many concerning attitudes towards the family, sex roles, and population policy, were identical in both). Because all secondary level instruction is conducted in English, it was assumed to be the best medium of communication for both students and teachers.

In both questionnaires, a variety of question styles was used. The open-ended response style was used for students to meet the objective of ascertaining students' perceptions of the overall range of community problems and how, if at all, students relate population factors to the definition and

solution of these problems. Fifteen questions on various development issues were included to allow respondents to follow their own logic and chains of association.

Most of the attitudinal questions were designed with closed response options. In retrospect, it seems unfortunate that the questionnaire included 21 multiple-choice questions designed to solicit agree-disagree responses. According to Warwick and Lininger (1975), there is some evidence that certain individuals are chronic "yea-sayers" in answering opinion questions, especially those in which the answer is limited to a single word—such as "agree-disagree."

Turning to the content of the questionnaires, although the primary emphasis was on issues related directly to population and family planning policy, in accordance with the broad definition of population education, other issues, especially fertility, were included that have policy relevance to population processes. The role and status of women, for example, in relation to education, employment, and the family can be seen as both a determinant and a consequence of variations in the timing of marriages as well as the timing and number of births (Dixon 1974). Similarly, questions and codes were designed to assess attitudes towards the distribution of wealth. Kocher (1973) has concluded from cross-national data that fertility has not been reduced where income inequality persists.

Collection of Data

The conditions of administering the questionnaire to the students were held constant. In every case, it was self-administered in a classroom or assembly hall after being introduced and explained by the study director. In every case, the students were told this was an opportunity for them to state their opinions concerning community and national development, that most questions had no right or wrong answers, and that they should feel free to express their own feelings. It is impossible to know to what extent and in which ways the responses might have been affected by the school setting itself and by the study director's influence (as a non-Kenyan). The results might have been different if the same respondents had been questioned outside the school or by another person.

Analysis

One clarification must be made regarding the analysis. The value of population socialization research—focusing on how individuals develop ideas and behavior related to population processes—is recognized. However, this survey was not designed as socialization research. Limited attention was given to social stratification variables such as social or economic class, age, place

of residence, and religion. The utility of such data is questionable in relation to the objectives of this study, because educators do not control variables which describe the social, cultural, and demographic characteristics of Kenyan youth. Rather, the purpose of this study is to describe students' ideas—ideas over which educators believe they have some influence.

Test-Retest Reliability

To measure consistency of the knowledge and attitude responses, the questionnaire was administered a second time to students in two schools, one month after the initial test. Forty-five girls and 50 boys from these two schools made up the reliability subsample.

The measure of reliability used is a straight percentage agreement measure of consistency between responses on the test and responses on the retest. This simple method obviously has shortcomings because it does not correct for chance agreement, yet time did not allow for the application of the Meltzer and Hochstim reliability index as recommended by Brackbill (nd).

The questionnaire was grouped into six parts (only five, however, are included in the retest data since students were not asked to respond to the personal and family background items a second time): 1) Items concerning personal future plans and desires, that is, further schooling, job, age at marriage, number of children; 2) items concerning ideals for education and family formation for others; 3) items concerning community and national development problems, that is, land shortage, unemployment, health, and so forth; 4) items concerning facts of population characteristics and change—age structure, infant mortality, urbanization, population growth; and 5) items concerning various controversial issues related to family planning, population growth, sex roles, and wealth distribution. A measure of agreement between test and retest is available for each of the 72 items; however, only the mean percentages are presented for the five general items.

Items concerning personal plans and desires appear to be the most consistent from test to retest with an average reliability of 80 percent. The least reliable items in this group of questions concern the number of intended children (60 percent) and the sex preference of children (63 percent). Those items concerning ideals for people in general, are just slightly lower in reliability, with a mean of 79 percent. The female respondents were much more consistent than the males in answering these questions.

Other attitudinal items dealing with controversial statements about the family, sex roles, family planning, population growth, and population policy were answered consistently in the retest by an average of 77 percent of the subsample. Once again, on the average, females were more consistent than males in responding to these items. Interestingly, Brackbill found no consis-

tent difference in reliability by sex. Although it appears that these data show a difference by sex, the structure of the reliability sample interferes with any absolute conclusions. Since all males were in one school and all females in another, it is possible that the males might have been exposed to a greater extent than the females to materials or discussions influencing their attitudes.

The average reliability on the open-ended questions concerning community and national development was 78 percent. The highest reliability in this group of questions was for items having some cognitive content, that is, the identification of problems in the students' home community. The lowest reliability in this group was for items concerning beliefs about the causes of various problems.

Finally, responses to factual questions on population characteristics and trends were the least stable over time, with an average reliability of 70 percent. This finding is consistent with that of Brackbill in which she found that the lowest average reliability was for items with content referring to national and international population growth rates. Despite the heavy cognitive content of such knowledge items, the students' basic lack of familiarity with population concepts probably accounts for the low reliability.

COMPOSITION OF SAMPLES

Students

The sample included 1,338 students enrolled in Form 6 of government high schools throughout the country—roughly one-third of the national Form 6 enrollment in government schools in 1976. The ratio of boys to girls in the sample was approximately 3:1, which corresponds exactly to the enrollment rate. The age range among student respondents was 17 to 26 years, and the mean age was 21 years. Ninety-seven percent were of African ethnic origin, while the remaining 3 percent were of Asian or Arab origin.

The justification for selecting from such a highly educated population is two-fold: 1) The need to include individuals mature enough to respond to development and population policy issues, and 2) the need to measure student awareness near the end of secondary school education in the absence of an organized in-school effort to increase awareness or change attitudes.

Because the more highly educated students were surveyed does not imply a greater interest in reaching these students with population education. The authors of this study do not intend to use an elite in the way Radel (1973) has suggested.

> Hence any strategy to raise the population problem from a latent to a manifest status must by and large work through the elite, for the elites

> define the problems that will be tackled and in what order of priority, control the resources needed to solve them, and besides are the major point of articulation within other social systems through travel, exposure to the international and domestic "mass" media, and interaction with foreign advisors. (p. 19)

Such an argument reflects the elitism, already characteristic of the Kenyan education system, which finally is being questioned by educational planners. Secondary-level students are of interest, not because a small fraction of them may someday define or control Kenya's population policy, but because they may be learning something today about using evidence intelligently to evaluate at a later date the validity of arguments and assumptions about Kenya's population policy.

Teachers

A questionnaire was distributed to the teachers available at each school in the student sample; it was not a random sample. A total of 391 questionnaires were completed from 32 schools. Of the total, 268 males and 105 females responded, and an additional 18 persons did not indicate sex.

Approximately 50 percent of the teachers were African, 30 percent were either European or American, and 8 percent were Asian. The ethnic origin of an additional 39 respondents was not indicated. (In light of the stepped-up Kenyanization of teaching staff, responses from African teachers are considered more relevant for making curriculum or training recommendations.)

The age range of teacher respondents was 21-52; however approximately 70 percent were under 31 years of age. In terms of qualification for teaching, 68 percent indicated they had graduate or university training, and almost 23 percent had completed either 4 years of secondary school and 3 years of teacher training or 6 years of secondary school and one year of teacher training.

Little can be said about the representativeness of the teacher responses for two reasons: 1) The sample was not random. 2) The response rate was poor. It is possible that those refusing to participate were the least interested in and/or the most opposed to issues related to population education. The return rate was as low as 35 percent in the Nairobi schools, while in upcountry and coastal schools, the rate reached 72 percent—giving an overall rate of 63 percent for teachers. The response rate for students was over 99 percent.

FINDINGS FROM STUDENT DATA

Questions from the student questionnaire were analyzed in three groups:
1) ,Knowledge questions: Those dealing with basic demographic facts.

2) Awareness questions: Those open-ended questions concerning problems of community or national development.
3) Attitudinal questions: Those dealing with family formation, personal life goals, sex roles, family planning policies, population policies, and redistribution of wealth.

Knowledge

Ten factual questions—nine demographic and one geographic—were asked to ascertain how well informed students were about national population characteristics and trends. Replies to each item are reported here. In addition, a scale was developed on the basis of replies to nine of the ten questions to assess more effectively the knowledge of the respondents.

Knowledge of age structure. A sizeable majority (73 percent) of students indicated that a large proportion of Kenya's population is under 15 years of age. Specifically, 16 percent thought the proportion is about one-fourth; 43 percent indicated the proportion to be about one-half; 30 percent indicated the proportion to be more than half, and 10 percent did not know. The actual percentage of the Kenyan population 15 years or younger at the time of the 1969 Census was 48 percent; in 1976, it is estimated at 46 percent.

Knowledge of infant mortality. A sizeable majority (78 percent) of respondents knew that proportionally fewer babies are dying now compared to when they were children. Thirteen percent thought more were dying now, 2 percent thought the same proportion were dying now, and 6 percent didn't know. It is important to note, however, that knowledge of reduced infant mortality does not necessarily mean reduced fear of infant mortality. In a later question, the most frequently stated disadvantage of having a small family was that one or all of the children might be lost through disease or accidental death. Between 1962 and 1969, infant deaths in the first two years of life declined 13 percent in Kenya. A 1969-1973 study of seven districts reveals a decline in deaths of children under five, from 119 to 115 per 1000 for boys, and from 108 to 94 for girls (Republic of Kenya 1975).

Knowledge of urban growth and urbanization. As many as 86 percent of the students knew that Kenya's big cities, Nairobi and Mombasa, are growing more rapidly than the population in other parts of the country. This question received the highest number of correct responses of all the factual questions.

Less than half (41 percent) of the sample knew the correct proportion of the Kenyan population living in big towns and cities. Another 37 percent thought that as much as 40 percent of the population lived in urban areas, and approximately 19 percent did not know. In 1969, 10 percent of Kenya's population was reported living in urban centers of 2,000 or more people. Of this urban population, 70 percent is concentrated in Nairobi and Mombasa.

Knowledge of fertility. Unfortunately, the question designed to assess knowledge of fertility does not correspond technically to any demographic measure of fertility. The question was worded as follows: "How many children does the average Kenyan mother have?" We anticipated the answer would loosely correspond with the total fertility rate. This rate measures the total number of children that 1,000 women would have if they passed through their reproductive years with the age-specific fertility of a particular year. Whether the simplified wording of the question can be translated into this statistical measure may be questionable, yet it appears that the majority of students (74 percent) came within one child of giving the actual total fertility rate for Kenya. The rate is estimated to be 7.6 children per woman. Forty percent of the respondents indicated seven or eight children, and 34 percent thought the number to be six. Only 20 percent indicated a small number—between three and five children; and 5 percent were at the opposite extreme, indicating nine children or more.

Knowledge of population growth. In an open-ended question, only 20 percent of the respondents could define or explain population growth in terms of births and deaths. The majority (51 percent) defined it as "an increase in the population." Others responded as follows:

- Fourteen percent defined growth as overpopulation, that is, more people than can be cared for.
- Eight percent defined growth as an "increase in the birth rate," that is, more babies being born.
- Five percent defined growth as an increase in population density, that is, more people per land area.

In a question based on the concept of population growth rate, the results are difficult to interpret because so few students seemed to understand it. Kenya's rate of population growth (3.5 percent) is higher than every other African country except Zimbabwe, yet only 50 percent of the sample was aware of this. When comparing Kenya to Western nations, the students appear to be more knowledgeable. Two-thirds knew that Kenya's rate of growth is higher. Twenty-five percent stated that Kenya's rate is lower; this may reflect the misunderstanding of the concept itself. In another open-ended question, several students criticized the notion of controlling population growth in Kenya because Great Britain had five times the population; hence, a confusion seemed to exist between population growth rate and population size.

Knowledge of population doubling time. Less than half (44 percent) of the sample knew the correct doubling time for Kenya. The anticipated error on the side of a longer doubling time, however, was not found, and, in fact, 29 percent thought the time to be even less than 25 years. Twenty-five years was considered to be the correct choice although if fertility were to continue

at its present level, Kenya's population would more than double in 21 years (Watson and Lapham 1975). And, in fact, 44 percent gave the correct response.

Knowledge of land fertility. The question, "Approximately what percent of the land in Kenya do you think is fertile for farming right now?" may be the least factually oriented of all the factual questions. The answer is debatable and necessarily qualified. The figures given publicly for high and medium potential land, however, range between 12 percent and 19 percent (International Labour Office 1972). The answers on the questionnaire were 5 and 20 percent and 45 and 70 percent. Only half the sample indicated the "correct" figure, and about 36 percent thought the amount of fertile land to be as much as 45-70 percent of Kenya's total land area.

An interesting, even if anticipated, pattern emerges when knowledge of land fertility is related to environmental factors. Those students whose fathers do not own any land at all and who are probably of urban origin were less likely to know about land fertility. Similarly, when looking at the population density of the student's home district, a much lower percentage of students coming from what are considered urban level densities knew the correct answer on land fertility.* Since Nairobi and Mombasa Island are the only districts with a density of over 500 people per square kilometer, respondents from these places can be considered urban. But to identify students from other, smaller urban areas, such as Kisumu or Nakuru, a more specific measure than density at the district level would have to have been used.

Knowledge scale. To summarize the results from the factual questions, a scale was developed based on replies to nine questions. By ordering the questions from easy to difficult based on the percent of students giving the correct answer, two random samples of 100 each were drawn from which was noted the number of students giving nine correct answers, eight correct, seven, and so forth, in relation to which answers were missed. One question was eliminated entirely, leaving nine, and hence, a zero-to-nine-point scale.

The average (mean) score is 4.3 correct answers, and the median is four.

Generally, girls did not score as well as boys on the factual questions. Only one-third of the female respondents got five or more questions correct, whereas half of the males did so.* The poor performance of girls is more noticeable when schools are ranked according to the percentage of students scoring above the mean on the knowledge scale. Of the eleven girls' schools participating, nine fall into the bottom group of thirteen schools.

Some variation also occurs by ethnic group. Students coming from Kisii, Kipsigis, Nandi, and Kamba backgrounds scored higher than other stu-

*Significant difference under Chi-square test at .005 level.

dents.* There are several possible explanations for these differences, but none are conclusive.

First, it is possible that Form 6 students from these particular ethnic groups may be a select group because, in proportion to their total numbers, fewer are enrolled in school. On the other hand, students from other ethnic groups with low school representation did not score especially high on the knowledge questions.

A second possible explanation is that perhaps those schools with heavy enrollment of Kisii, Kamba, Kipsigis, or Nandi students have already covered the concepts and facts raised in the factual questions. For example, the school with the highest score had 28 out of 44 respondents who were members of these four groups. The second highest-scoring school had 16 out of 31 students who were of Kamba background. However, given the distribution of these four ethnic groups in the other 31 schools which had middle and low scores, these two high-scoring schools don't adequately explain the higher scores of students from the four ethnic groups. Thirdly, it is possible the environment of these students has influenced their awareness about certain trends. The Kisii people, for example, are experiencing an extremely rapid rate of population growth in an already densely populated rural area (Nerlove and LeVine 1972). The Kamba, while not experiencing as high density, have a high total fertility rate and also have been experiencing land problems and severe drought. It seems plausible that students coming from these areas might have considered questions of community size in relation to arable land, the division of land into ever-smaller plots through inheritance to many sons, outmigration due to rural underemployment, et cetera.

No evidence exists at the time to support this or any other conclusion. The latter explanation seems to fit the Kisii situation, but no special environmental or demographic circumstances exist which might have influenced the Nandi and Kipsigis students. Until additional evidence is available, this difference cannot be explained.

A more useful way of evaluating overall student performance on the knowledge items may be to note which questions were most often answered correctly. Questions on urban growth, infant mortality, and Kenya's population growth relative to industrialized Western countries were answered correctly by most students. Questions concerning land fertility, Kenya's population growth in comparison to other African countries, population doubling time, age structure, urbanization, and fertility were answered correctly by 40 to 50 percent of the students. The final item was an open ended question on the meaning of population growth, and only 20 percent answered cor-

*Significant difference under Chi-square test at .005 level.

rectly. Since this was the only open-ended question, and the other nine were multiple choice, the lack of accuracy is not surprising.

If the questions were judged in terms of future implications for development, those on population doubling time, age structure, and land fertility would be most important. That only 40 to 50 percent of these elite youth knew such facts leads to the conclusion that they are not well informed about population characteristics and trends.

Awareness

In addition to measuring knowledge of demographic facts, we evaluated student awareness of development problems, and their relation to population. Open-ended questions encouraged respondents to follow their own logic and chains of association. This was crucial for examining how and if students related population factors to the definition and solution of the development problems they themselves identified.

Eight open-ended and four multiple-choice questions dealt with the following issues: Community development, land shortage, agricultural production, urban problems, unemployment, and health problems.

Community development. Two similar questions were asked: "Thinking of your home community, in what ways do things need to be improved to make life better for the people there?" and "What are the obstacles to progress in your community?" The prevailing concerns of students in terms of improvements needed were water supply, education, agricultural production, and roads. In terms of development, students noted the following obstacles: Income levels and unemployment, education, pattern of development (land distribution and location of industry), and cultural or family factors (tribalism, witchcraft, drinking). When the data from both questions were analyzed together, five factors emerge as the most important in community development—education, land/agriculture, water supply, income/employment, and communications/roads.

Only 18 percent of the students (23 percent of the girls and 16 percent of the boys) mentioned a population factor in relation to these issues of community development. Interestingly, a higher proportion of students of Kisii and Luhyia ethnic backgrounds related a population factor to their community problems. The difference may reflect the current demographic and land distribution situations in their home areas. Both are rural areas of high population density and small land holdings, and both districts experienced total fertility rates above the national figure in 1969.

Land shortage. Two-thirds of the respondents indicated that shortage of land is a problem in their districts, and 60 percent stated that other parts of Kenya also have land shortage problems. Nineteen percent admitted not

knowing about the other parts of Kenya which suffered this problem. This is surprising given the low proportion of students who knew about current land fertility in the country. However, in response to a question on the need to control population growth in Kenya, 27 percent of the students said there was such a need because of limited land and/or resources. In fact, this was the most frequently cited reason for population control.

Agricultural production. Students were asked how slowing population growth would affect agricultural production. Seven percent said it would have no effect; 52 percent thought it would help, and 30 percent thought it would be harmful. Harm to labor-intensive farming was the most common reason cited for why agricultural production would suffer. Students felt that slower population growth would limit the available labor force and that the level of production would decline. Most students who thought slower population growth would be beneficial said so because of the reduction in domestic consumption and the resulting increase of export products, or the increase in available land per person.

Urban problems. Respondents described the kinds of urban problems they had experienced or heard about and indicated why such problems had developed. Housing, crime, unemployment, and high cost of living were seen as the most severe problems by a majority of students. One population-related factor, congestion or over-crowding, was mentioned by 18 percent of the sample.

Among the causes of urban problems, students frequently cited population factors such as migration and growth. Twenty-nine percent of the students indicated that rural to urban migration was either the first or the second most important cause, and 19 percent mentioned population growth.

Unemployment. One question described the high rate of unemployment in Kenya (a fact about which the respondents were well informed) and asked why this problem had arisen. Population growth/urban migration was cited as the cause of high unemployment by 26 percent of the students. Other factors given were lack of industries (18 percent); lack of skills (17 percent); corruption/unnecessary foreigners (12 percent); pattern of national development related to land distribution, location, and type of industry (12 percent); inappropriate education system (11 percent); and capital-intensive production (4 percent).

Although population growth was seen as the most important cause of unemployment, slowing population growth was not a popular option for reducing unemployment. In a multiple-choice question, students were asked to choose one or two answers to complete the sentence, "More people could find jobs if . . . . " Students selected the following answers, either singly or in combination with another:

- Kenya established more industries. 67 percent
- People got more technical training. 48 percent
- The population wasn't growing so fast. 31 percent
- Fewer machines were used on farms and in factories. 18 percent

Health problems. The most commonly expressed serious health problem in the students' communities was the lack of medical facilities and medical personnel (28 percent of students). This not-so-surprising response was followed closely by environmental conditions (26 percent) and malnutrition (20 percent). These latter two responses may show a concern with preventive measures. Thus, 46 percent of the students thought beyond curative measures and focused on the causal factors of disease.

References to poverty, ignorance, infectious diseases, and sexually transmitted diseases account for another 17 percent; 3 percent said either that there were no health problems or they didn't know what they were. Another 5 percent did not respond at all—the highest "no response" percentage of open-ended questions measuring awareness.

When asked to suggest ways to improve the health of women, nutrition was the answer given most often. Either nutritious food, diet, or nutrition education was mentioned by 36 percent of the sample. Over 21 percent indicated use of birth control or spacing of children. Health education was suggested by 16 percent of the students, and another 21 percent suggested more rest, more rural health workers, or more general education for women.

A more specific health-related question concerning breastfeeding reveals some interesting results. The great majority (76 percent) of students recognized the nutritional value of breastfeeding, while only 21 percent acknowledged its usefulness for delaying the next pregnancy. More importantly, as many as 23 percent believed breastfeeding to be "too inconvenient for modern mothers." This response is, of course, consistent with the worldwide trend away from breastfeeding. A larger proportion of boys than girls (26 percent compared to 14 percent) indicated inconvenience.*

To summarize awareness of development problems, students seem cognizant of, and articulate about, issues facing national development planners—water supply, unemployment, type of education, and nutrition. Moreover, population variables were prevalent in the students' analyses of these problems. In relation to each of the six development issues raised in the questionnaire, population factors were mentioned by at least 18 percent of the respondents.

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*Significant difference under Chi-square test at .005 level.

Attitudes

Responses to a wide variety of attitudinal items supplement the findings of the awareness questions. These only supplement awareness questions because of the methodological problems associated with attitudinal measures. In particular, response to a series of 21 multiple-choice questions designed to elicit agree-disagree response is questioned. Inconsistency is found throughout the attitudinal measures. Unfortunately, it is impossible to determine whether the problem is due to inconsistent thinking on the part of the students or to questionnaire design. A certain amount of inconsistency should be expected in response to issues about which the respondent may not have thought before.

Response styles, other than the agree-disagree option, were also used to solicit attitudes. This was especially appropriate for questions concerning advantages and disadvantages of small and large families, and whether or not Kenya should control its population growth, and why. The overall range of attitudinal questions covered the following areas: Population policies, family planning policies, the family, distribution of wealth, sex roles, and personal life goals.

Population policies. A large majority (83 percent) of students said it was necessary to control Kenya's population growth. Sixteen percent said no such need existed, and less than 1 percent of the sample had no opinion on this controversial issue. Students gave the following reasons for their responses:

Yes, Kenya needs to control her population growth because:

- Kenya doesn't have adequate land or resources. 27%
- Unemployment is already high. 21%
- Kenya should be able to offer a better way of life to people, to balance economic growth with population growth. 17%
- Kenya's rate of population growth is very high. 10%
- The cost of living is so high. 6%
- Other 2%

No, Kenya does not need to control her population growth because:

- Kenya has enough land and resource; we just need to redistribute. 7%
- Kenya is underpopulated. 4%
- Kenya needs additional manpower. 4%
- Other 2%

100%

Considerable inconsistency existed on this issue. As many as 26 percent of those stating that Kenya needs to control population growth, indicated

agreement with the statement, "As long as family planning helps couples to have the number of children they want, it doesn't matter if our population continues to grow rapidly." Another 24 percent of those in favor of controlling growth, agreed with the statement, "Population growth is good for economic growth in Kenya."

Respondents were asked to suggest an ideal family size for couples, qualified both by the conditions in their home villages or towns and according to the current stage of economic development in Kenya. As Table 1 shows, four is the modal number of children a couple should have under both conditions. Responses to the ideal number at Kenya's stage of economic development, however, favor a smaller family size. Given the current level of economic development, 73 percent of the students indicated a couple should have four or fewer children; whereas, given the conditions in the students' home village, only 57 percent support a family of that size.

Finally, there is a noticeable preference for slightly smaller family size among students living in urban areas. Sixty percent of those from urban centers thought couples should have three children, given conditions in their own community. Only 18 percent of students living in other areas indicated a family of three children.*

A list of 18 multiple choice questions concerning a variety of policy and other issues is summarized in Table 2. Three statements (Nos. 16-18) directly concerning government policy were presented in the table.

The data show a clear pattern of decreasing agreement as we move from information to family planning services to abortion. Subgroup differences emerge from these questions as well. Girls generally appear to be less supportive of family planning services and abortion. Of the girls, 59 percent, as compared to 74 percent of the boys, support free contraceptive services for anyone, including unmarried girls. Sixty percent of the girls as compared to 43 percent of the boys, agree that modern contraceptives are dangerous. And only 29 percent of the girls support availability of abortions as compared to 41 percent of the boys.*

Gachuhi found similar differences in a 1973 survey of 1,361 young people in eight Kenyan schools and colleges. Over half the students in his sample felt that contraceptives should be made available to people under 20 years old. Of the males, 48 percent, and of the females, 36 percent, thought they should be available to people under 18 years. Gachuhi (1974) explains that the higher ratio of male support for this policy is due to their higher incidence of sexual experience. His data show that by 19 years of age, 80 percent of the boys, but less than 50 percent of the girls, have had sexual intercourse. Similarly, in a major KAP (Knowledge, Attitude, and Practice)

*Significant difference under Chi-square test at .005 level.

Table 1

Family Size Preference of Students
Given Conditions in Home Village and Stage of Kenya's Development
(percent)

Number of Children	Conditions in Home Villages	Stage of Economic Development in Kenya
1 - 2	5%	11%
3	14	22
4	38	40
5	20	14
6	15	8
7 or more	7	3
No response	1	1
	100%	99%

Table 2

Student Responses to Statements Concerning
Family, Wealth Distribution, Sex Roles,
Population Growth, and Family Planning

Statement	Responses		
	Agree	Dis-agree	No Response
The Family			
1) It's better to have a big family than a small family.	15	84	1
2) In Africa, most families need to have many children.	24	76	-
3) People are poor usually because they have too many children.	40	60	1
4) Poor people have many children in order to have more help at home.	44	55	1
Wealth Distribution			
5) The Kenyan Government should redistribute the nation's wealth so that the people who are now poor might earn a bigger share.	80	19	1

(continued on next page)

(Table 2-continued)

Sex Roles			
6) If a boy and a girl student—both top students—compete for a university scholarship, it should go to the boy.	49	50	1
7) At work men and women should have the same chance of becoming supervisors.	59	41	1
Population Growth			
8) World wide famine will occur unless population growth is slowed down.	75	24	1
9) As long as family planning helps families to have the number of children they want, it doesn't matter if our population continues to grow rapidly.	29	70	1
10) Population growth is good for economic growth in Kenya.	29	70	1
11) The problem facing Kenya and other developing nations is not too many people but a lack of resources.	81	18	1
Family Planning			
12) No one should try to tell a family the best number of children to have.	34	66	1
13) A high priority in any African family planning program should be to help couples who have been unable to bear children.	46	52	1
14) Modern methods of family planning are dangerous to a woman's health.	60	39	1
15) Foreign aid for family planning is an attempt by the rich nations to reduce the number of people in the poor nations.	47	51	1
16) The Kenyan Government should provide family planning information to anyone who desires it, including unmarried persons.	92	8	1
17) The Kenyan Government should give free contraceptive services to people who want to use them including unmarried girls.	70	29	1
18) The Kenyan Government should allow women to have abortions.	38	62	1

study of 4,194 Kenyans in 1971, more men approved of abortion than women—in fact by a margin of almost two to one (Family Planning Association of Kenya 1971).

It appears that the majority of students are supportive of family planning activities. Those students who indicated support, however, are not necessarily the same respondents expressing concern for the need to control popula-

tion growth. Of the 215 who said there was no need to control growth, 50 percent supported free contraceptive services for all including unmarried girls; of the 1,113 who said Kenya needs to control her population growth, as many as 27 percent disapproved of providing free contraceptive services.

It is somewhat puzzling that more students didn't feel that infertility services should be an important part of family planning programs. While they probably know the traditional medicines for problems of sterility, they may be unaware that modern medicine also offers treatment for this problem.

Finally, it is interesting to note that despite majority support for family planning and slower population growth, 41 percent of the students feel that foreign aid for family planning is an attempt by the rich nations to reduce the population in the poor nations. In fact, of the 1,114 respondents favoring control of population growth, 39 percent agreed that this was a reason for foreign aid from rich countries.

The family. To measure attitudes towards family size, students were asked to define a small family and a big family by specifying the number of children in each. The mode for a small family is four children. As many as 82 percent defined a small family as four children or less (35 percent, four; 22 percent, three; 23 percent, two; 2 percent, one). A family of five was defined as small by 13 percent of all respondents, and 5 percent gave no response.

The mode (33 percent) for a big family is 11 or more children. (The code did not allow for a more refined breakdown of these larger numbers.) While 10 percent defined a big family as having between three and six children, and 19 percent as having between seven and nine, as many as 15 percent perceived a big family as comprising 10, 11, or more children.

After defining small and big families, students described both the advantages and disadvantages of each.(See Table 3) Given that the Ministry of Health's primary objective for family planning activities is improving maternal health, relatively few respondents were concerned with mothers' health in relation to either a small or large family. Perhaps this means young people are not being reached by the family planning program.

The obvious conclusion from the preceding data is that students' attitudes on family size are influenced by basic issues: Providing food and education, having help on the farm, and keeping enough children alive to care for parents in later years.

Questions 2, 3, and 4 from Table 2 were designed to assess student attitudes about the relationship between family size and family economic circumstances. Cross-tabulations show little consistency in student thinking on this issue. Of the 581 students who agreed that poor people have many children so as to have more help at home, as few as 30 percent agreed with the statement that, in Africa, most families need to have many children. As

Table 3
Student Identification of Advantages and Disadvantages of Small and Large Families (percent)

Attitudes towards a small family were expressed as follows:	
Advantages	
- Able to provide food, education, health for all	55%
- Able to enjoy a higher standard of living	21%
- Able to give love and attention to all	15%
- Less bother, more leisure	4%
- Maintains mother's health	2%
- Helps to slow population growth	1%
- No advantage, or no response	2%
Disadvantages	
- Danger of loss through death	39%
- Need for labor at home	20%
- Need for children of both sexes	9%
- Children may become spoiled, selfish	6%
- Home will be lonely	5%
- Need for help in old age	4%
- No prestige in community	2%
- No disadvantages	7%
- No response (much of this no response could be interpreted as no disadvantage)	8%
Attitudes towards a big family were expressed as follows:	
Advantages	
- Source of help, labor at home	42%
- Companionship, cooperation, happiness	10%
- Possibility of one or two being successful	10%
- Security in old age	9%
- Prestige in community	8%
- Other	8%
- No advantages	6%
- No response (interpret perhaps as no advantage)	7%
Disadvantages	
- Unable to provide basic necessities	71%
- Burden; danger of children becoming thieves	10%
- Unable to give adequate love, attention	10%
- Contributes to population growth	2%
- Destroys mother's health	2%
- Other	1%
- No disadvantages	1%
- No response	3%

many as 44 percent of the 581 agreed with the somewhat contradictory statement that people are poor usually because they have too many children.

A higher proportion of boys believed that most families need to have many children, and that poor people have many children to get more help—27 percent of boys compared to 14 percent of the girls on the first issue, and 47 percent of the boys compared to 34 percent of the girls on the latter issue.*

Wealth distribution. One object of the survey was to determine whether young people think in political terms when analyzing development issues, and if so, in what way. Such attitudes may be difficult to quantify, but the student data reveal some evidence of a concern for the distribution of wealth. Only one question dealt directly with the issue of wealth redistribution. Students were asked to respond to the statement, "The Kenyan government should redistribute the nation's wealth so that the people who are now poor might earn a bigger share." As many as 80 percent of students agreed, and 19 percent disagreed.

Three previously reported open-ended questions give additional evidence of concern. Problems of corruption, unequal distribution of land, and lack of jobs were mentioned spontaneously by many students. When asked about improvement in the student's home community, 28 percent of the sample mentioned issues related to the way development is organized in Kenya (centralization of wealth and opportunities, large landholdings by a few, corruption in employment practices, loan policies that discriminate against small farmers).

The question on land shortage also prompted many qualifications related to the unfair distribution of land. Although not tabulated quantitatively, many of the 20 percent who indicated there was no shortage of land in Kenya qualified the answer, stating the need for more even distribution of land.

Finally, when students were asked to explain why unemployment in Kenya had risen to such a high level, as many as 23 percent of the sample expressed concern about employment opportunities in terms of location of industries, nepotism and tribalism in hiring practices, distribution of farming land, too many foreigners. Moreover, we believe many students would have been more outspoken about this issue were they not worried that the data would be used against them.

Sex roles. Five questions were included to measure current attitudes towards roles of men and women, especially in education and employment. In the area of education, students were asked, "How much schooling do the majority of Kenyan girls (and boys) need to get along in Kenya today?"

*Significant difference under Chi-square test at .005 level.

While the sexes agree that most Kenyan boys need either technical school or university, there is discrepancy between boys and girls over how much education Kenyan girls need. Sixty-nine percent of the girls believe they need at least technical or university training, but only 39 percent of the boys state girls need that much schooling.* For both boys and girls, aspirations for university education are high and rather unrealistic for the majority of Kenyan boys and girls, yet it is clear that the students believe girls need less education than boys.

A striking difference between the sexes occurs in response to the statement, "If a boy and a girl student, both top students, compete for a university scholarship, it should go to the boy." As many as 95 percent of the girls disagreed, while as few as 35 percent of the boys disagreed with the statement. Once again, the mother's education may have had some influence here. A greater proportion of those whose mothers finished at least secondary school disagreed (68 percent), compared with those whose mothers only went to primary school (49 percent).*

In response to a statement concerning employment policies—"At work men and women should have the same chance of becoming supervisors"—58 percent of all students agreed, and 41 percent disagreed. However, 91 percent of the girls agreed, while only 47 percent of the boys agreed. Seventy-six percent of those whose mothers went at least as far as secondary school agreed, while only 58 percent of the others agreed. The same difference arose in tabulating mother's occupation by response to this question. Seventy-five percent of those whose mothers were professionals, teachers, or clerks agreed, while only 57 percent of those whose mothers were farmers, entrepreneurs, or housewives agreed.*

Two open-ended questions proved valuable in revealing student thinking on the role and status of women. One of these questions read, "Usually, working women earn much less money than working men. Why do you think this is true?" Table 4 indicates student response.

Students were also asked, "Do you believe men and women should earn equal pay if they are doing the same work?" Three of the reasons given for women earning less money can be classified as egalitarian reasoning, or reasoning showing some understanding of the difficulties faced by women as a whole. They are: Women hold different kinds of jobs, women get less education and training, and women are discriminated against. From Table 5, it appears that 63 percent of the girls, but only 35 percent of the boys, have used egalitarian reasoning. Regarding the issue of equal pay for the same work, 72 percent of the girls used egalitarian reasoning, while only 42 percent of the boys did.* Answers to both questions show the expected varia-

*Significant difference under Chi-square test at .005 level.

Table 4
Student Reasons for Women Earning Less Money than Men, by Sex of Respondent (percent)

Reason	Girls N = 343	Boys N = 994	Total N = 1228
Women are inferior; less productive, weak	4	20	16
Role difference, men have more family responsibility	15	23	21
Women have benefits—maternity leave, less taxes	7	6	6
Women hold different kinds of work	10	11	11
Women get less education and training	13	14	14
Discrimination against women exists	40	10	17
Disagree with statement: Women do not earn less	7	10	9
Don't know why	1	3	2
No response	2	3	2
Totals	100%	100%	100%

Table 5
Student Positions on Equal Pay for Equal Work, by Sex of Respondent (percent)

Response	Girls	Boys	Total
No, women should not earn equal pay	5	40	31
Yes, because of high living costs	10	6	7
Yes, if she is as productive, if she is single, etc.	10	12	11
Yes, same work deserves same reward; women and men have equal rights	72	42	49
Women should earn more	2	-	1
No response	1	1	1
Totals	100%	100%	100%

tion by mother's education and occupation. Fifty-eight percent of those whose mother had secondary schooling or more, answered using egalitarian concepts, while only 41 percent of the others did.* Of those students whose mothers were professionals, teachers, or clerks, 65 percent answered with egalitarian concepts, while only 42 percent of those whose mothers were farmers, entrepreneurs, or housewives answered showing egalitarian thinking.*

Personal life goals. Ninety-seven percent of both the girls and the boys in the sample hope to go to the university, and as many as 62 percent of the boys and 48 percent of the girls indicated plans for more than 3 years of university study. In light of last year's percentages of those who went on to the university, approximately 25 percent of these students will be able to go on for university-level studies.

The majority (85 percent) of students want to marry; 7 percent do not want to marry, and 8 percent simply did not know. Of those planning to marry, 78 percent wanted to do so between the ages of 25 and 30, 10 percent between 30 and 35, and the remaining 12 percent at 24 years or under.

The great majority (95 percent) want to have children. Of these, half want three or four children, and another 29 percent want five or six. As seen from Table 6, almost three-fourths of all girls chose a family size of four or fewer children.

The findings for the total sample compare closely to Gachuhi's 1972 study of 320 students ages 15-25 years, in which he found that 61 percent wanted between two and four children, 24 percent between five and six, and 8 percent wanted more than seven children. In contrast, Joseph's study (1971) of 300 high school seniors found that 47 percent wanted less than three children—data which correspond with the Molnos (1968) student survey in which she finds that "the majority of respondents react positively to the idea of having two or three children. Only a relatively small group of respondents find that three (two) children are not enough."

It is questionable whether the educated youth would desire as many as four fewer children than the adult population as a whole, as seen in the Joseph and Molnos findings. Three other studies show that the ideal number of children desired in Kenya is around six. Heisel (1968) found that 50 percent of his (mainly married) respondents indicated that they would like to have six or more children (Gustavus and Huether 1975). However, with economic change, attitudes are also changing, and therefore the educated youth may well desire families somewhat smaller than the national average.

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*Significant difference under Chi-square test at .005 level.

Table 6
Number of Children Desired by Students, by Sex of Respondent

Number of Children	Female N = 320	Male N = 936	Total N = 1256
2 or less	10	6	7
3 or 4	62	51	54
5 or 6	22	34	31
7 or 8	3	4	4
9 or more	3	4	4
	100%	99%	100%

This, of course, is what the data in the present study indicate. Over 60 percent of the respondents want four or fewer children—a significant drop from six.

Regarding sex preference of children, just half of the sample wanted the same number of boys and girls. Another 32 percent preferred more boys, and 10 percent more girls. There is a wide discrepancy, however, between male and female respondents. Over twice the proportion of male students (38 percent compared to 16 percent females) have stated a preference for more boys than girls.*

Source of information. Students were asked to indicate, in order of importance, a variety of sources through which they had learned about population issues. Mass media have apparently played the most significant role with 52 percent of the students reporting that newspapers, magazines, radio, or television had influenced them most. Books and secondary schools also have been influential.

Summary of student findings. On the whole, this group of 1,338 high school students are not well informed about current population processes in Kenya. The majority shows support for a variety of policies that might alter Kenya's rapid rate of population growth. However, these students are not pronatalist or progrowth, but neither are they antinatalist. The average desired family size is between three and four children, and a great proportion of students are still afraid of losing their children as infants. At the national level, students are as concerned about the distribution of land and resources as they are about population growth.

*Significant difference under Chi-square test at .005 level.

Throughout the answers, there is considerable significant variation by sex. Although girls were less knowledgeable, they spontaneously related population variables to community problems in greater proportion than boys. While the boys were more progressive concerning availability of abortion and contraceptive services to unmarried girls, the boys are far more traditional than the girls concerning the role women play in society.

FINDINGS FROM TEACHER DATA

In the absence of educational literature on Kenyan population characteristics and changes, the teacher is probably the final authority on population issues raised in the classroom. This situation has serious implications for what facts are presented to students and what values are implicit or explicit in the presentation. The dangers of distortion of facts are great in this area of study, and unless teachers are well prepared in both subject matter and methodology, little will be gained in terms of the ultimate goal for secondary level students which is using evidence intelligently to evaluate the validity of arguments and assumptions.

Through the teacher questionnaire, an attempt was made to determine the following characteristics:

1) Teachers' orientation to problem-centered content
2) Teachers' preparedness to teach population
3) Teachers' attitudes towards population education
4) Teachers' attitudes towards population and related issues
5) Teachers' own family planning behavior.

Teachers' Orientation to Problem-Centered Content

In response to an open-ended question, teachers identified a variety of national problems which should be discussed with students in the classroom. Among the 10 most commonly mentioned are economic, mainly unemployment (49 percent); education, particularly related to the curriculum and literacy (39 percent); and population in relation to urban growth and family size (38 percent). However, as many as 23 percent of the teachers had not discussed any of these problems in their classrooms during the past year. Fifteen percent had raised one problem, 21 percent had raised two, and 28 percent had included between three and five of the problems.

While roughly half of all teachers covered at least two national issues in classroom discussion, less than half were favorably oriented to problem teaching. Forty-seven percent of the teachers indicated that the curriculum should be reorganized around problems. Another 9 percent favored such a reorganization with major qualifications. Fourteen percent felt a combination of the old system and a problem-centered curriculum would be best.

And another 14 percent indicated either out-and-out disapproval of problem-centered content or a strong preference for the present subject-based curriculum but with some willingness to discuss national problems.

Response to this rather controversial question varies mainly by ethnic origin. The great majority (79 percent) of African teachers favor the change to a problem-centered curriculum or a combination of the old and new. Almost as many of the Asian teachers (74 percent) favor the same change. However, among European/American teachers, only 57 percent support any change from the present subject-based system. Other cross-tabulations show that fewer of the science teachers and fewer of the Form 5 and Form 6 teachers support this change, but this probably reflects the higher number of expatriate teachers making up these two categories.

In fact, the Kenyan education system is still molded after the British model, and hence many European teachers oppose altering a system which worked well for them. But more and more Kenyan educators favor eliminating the inequalities of the old colonial-born system and revising the content and process of education to suit the local social and economic environment.

Teachers were asked specifically whether certain problem-centered subjects (development, environment, health and nutrition, population, and so forth) should be taught in Kenyan schools. They indicated that problems of development and health were most important, and one-quarter of the sample considered all four areas equally important.

At least a third of the teachers already discussed all four problems in their classes. Population, taught by 48 percent, received the most attention of these four topics, and health, taught by 34 percent, the least. If curriculum materials were available, another 30 percent of the teachers would be interested in introducing lessons on problems in these areas.

A sizeable proportion of teachers from the major discipline areas (science, social studies, humanities, bioscience) already taught about these problems. For example, 76 percent of social studies teachers, 53 percent of the bioscience, 44 percent of the humanities, and 30 percent of the science taught population. As would be expected, social studies teachers were the most likely to teach about population and development problems, while teachers of bioscience were most likely to teach about health and environment problems.

Summarizing the teachers' orientation to problem teaching, we find the majority are interested and involved in classroom discussions of the various national problems. The three most commonly identified national problems were: Economics, mainly related to unemployment; education, mainly concerning the curriculum's relevancy; and population in relation to urban and national population growth. In response to four already-identified problems—development, health and nutrition, population, and

environment—at least one-third of the teachers already covered them in classroom discussions. As many as 48 percent claimed to be discussing population problems with their students, and as anticipated, social studies teachers were the most interested and involved.

Teachers' Preparedness to Teach about Population Issues

Population studies is comprised of a definite body of facts. Any focus on population issues must involve the causes of population change and, therefore, the three demographic processes of fertility, mortality, and migration. Without a basic knowledge of these processes, Kenyan teachers would need additional preparation to introduce discussions on population issues.

Not simply a mastery of facts makes a teacher ready for population education, however. The dangers of distortion are great in this area where values are so intimately involved. Selecting just one fact to be taught instead of another involves taking a value position, whether consciously or unconsciously. The following part of the report assesses the knowledge level of the teachers and their ability to present fairly different points of view.

Knowledge. Teachers were asked the same factual demographic questions as the students. Teachers scored only slightly higher than the students, with a mean of 4.7 and a median score of five correct answers out of nine. Students responded with a mean of 4.3 and median score of four. That teachers did not know a great deal more than students is rather surprising in light of the nature of these factual questions. Teachers were not asked for obscure or specific demographic statistics, but rather for general trends and characteristics.

As might be expected, there is some variation on the knowledge score by teacher's educational background. Forty-two percent of those whose qualifications included a university degree scored six or more correct answers, whereas only 33 percent of those whose qualification is other than graduate scored at that level.

The knowledge score also varied by subjects taught. More social studies and biological science teachers scored with six or more correct than other teachers. In a cross-tabulation to examine more closely the knowledge level of those already teaching population, only about half (46 percent) had high scores, and they scored only slightly better than the teachers who were not covering population issues.

Source of knowledge. Teachers were asked the source of their knowledge of population issues. (Only the response of Africans in the sample is reported here. It would be preferrable to distinguish Kenyan citizens from noncitizens; however, in lieu of this information, ethnic group distinctions are used.) The majority of African teachers relied on written materials—

books, newspapers, and magazines—for their information, and only 10 percent received any training on population at universities or teachers colleges.

Balanced arguments. An attempt was made to assess whether teachers gave objective presentations of population issues. The questions on advantages and disadvantages of small and large families and of traditional methods of child spacing were introduced with the following statement, "Assume you and one of your students are discussing the changing family in East Africa. Try to give balanced arguments." A skilled teacher was expected to give at least one advantage each for a small and a big family, as well as one disadvantage both for a small and large family. Respondents were ranked from one to four, depending on how completely they complied with the directions.

Only 55 percent gave both advantages and disadvantages for small and large families—in other words, all four requirements for a balanced response. Fifteen percent gave three of the four requirements and 23 percent gave only one or two. Another 7 percent gave none—neither advantage nor disadvantage for either small or large family. In addition, women were more likely than men to give balanced responses. Similarly, those teachers with graduate qualifications were more likely to present both sides of the question than those with less than graduate qualifications.

Teachers were asked a second question, intended to measure the ability to be value-fair, "What traditional methods of child spacing were (or are) used by people in East Africa?" This was followed by, "What are the advantages and disadvantages of (such) traditional methods compared to modern methods?" Again, skilled teachers were expected to give both pros and cons of traditional methods. Less than half (47 percent) of the sample, however, was able to present both viewpoints. Eleven percent stated only disadvantages, while 9 percent stated advantages only. Another 7 percent admitted they did not know, and as many as 26 percent did not respond at all. While the high non-response would supposedly reflect the non-Africans in the sample, in fact only half of the 101 non-responses came from non-Africans.

Only half of these teachers were able or perhaps willing to give a balanced, objective presentation of two important population issues. The question of assuming a value-fair stance, in which all points of view are examined and the decision is left to the students, is controversial—and a key question for population educators to answer

The educators were queried as to the best approach to discussing population—prescriptive or value-fair? The following two statements were presented from which respondents were to choose the one they agreed with more.

1) One of the functions of population education is to show students the disadvantages of large families and instill in them a sense of responsibility to have fewer children.
2) Population education should present facts only, and avoid taking positions about a correct family size or population growth rate.

A slight majority (53 percent) favored presenting the facts only in a value-fair approach, while 43 percent favored a prescriptive approach to encourage smaller family size. However, the responses vary by subject taught. Endorsement of a value-fair approach was indicated by 57 percent of the humanities teachers, 55 percent of both social studies and science teachers, and only 39 percent of bioscience teachers. Conversely, bioscience teachers showed the greatest support of a prescriptive approach (58 percent) and teachers of the humanities the least (38 percent).

It is interesting to see comparable data from a United States study from which this question is derived. Gustavus and Huether, in a 1974 survey of U.S. elementary and secondary school teachers, found that slightly more teachers favored a value-fair approach. In addition, they found that more biology and environmental studies teachers favored a prescriptive approach aimed at smaller family size. However, it was possible, because of the way their question was worded, for teachers to agree with both approaches (statements); and, in fact, many teachers did agree with both. We quote Gustavus and Huether (1975) concerning this response.

> . . . the majority of teachers endorsed each of these statements and about one-third of the sample endorsed both and explicitly stated that they did not see these positions as incompatible. Some teachers explained that when the value-fair facts were presented, the responsibility to have two children became clear to students. This finding is interesting because much of the population education literature contains arguments among academics on which of these positions *should* be held. Some of these teachers have settled the matter for themselves in a way that might not have been anticipated (p. 205).

Response to the questions on approach in both the present and the U.S. study apparently indicates that encouragement for smaller family size is already part of what is being taught by a significant proportion of teachers. In the present study, 45 percent of the 191 teachers already teaching about population favored an approach encouraging smaller family size.

In summary, the level of preparation of Kenyan teachers relative to their general demographic knowledge is low, particularly in light of the close correspondence between teacher and student scores. Even those teachers who claimed to be teaching something about population issues did not score

much higher than those who were not. Social studies and biology teachers were slightly more knowledgeable than others.

As for the handling of two population issues fraught with value assumptions, only half of the teachers gave balanced, two-sided arguments. This corresponds to their choices for the best approach to population education: To convince the students of a certain value or to present them with the facts and let them reach their own conclusions. Forty-three percent endorsed the former approach and 53 percent the latter.

Teachers' Attitudes Towards Population Education

As noted in a previous discussion, 74 percent of the sample claimed to be "interested in introducing lessons" on population issues. This interest, however, varies by the teacher's discipline. Science teachers showed the least interest (63 percent), social studies teachers the most (88 percent), and teachers of the humanities and biosciences indicated a mid-level of interest (75-76 percent).

Of the 89 teachers who stated no interest in teaching about population or the other three problem areas, nearly half (48 percent) claimed that the problem areas (development, health and nutrition, environment, population) had no relevance for the subjects they were teaching. Another 24 percent stated they felt ill-prepared to introduce lessons on these problems. The remaining 28 percent claimed either to have no interest or no time as they had to keep up with the present examinations-oriented syllabus.

Expected opposition. Although none claimed fear of opposition from parents or administrators as a reason for their disinterest or unwillingness, approximately 28 percent of the teachers said they would expect some such opposition. While 60 percent of the total would not expect any opposition if they "had a lesson or two about population issues," 15 percent said they would expect opposition from parents, and 5 percent said opposition would come from the students themselves. Other sources of opposition were mentioned by another 8 percent. The remaining 13 percent either said they did not know if they would be opposed or did not respond at all. As seen from Table 7 there is some variation by religion and ethnic background of those responding. More Catholic teachers expect opposition to come from parents, as do more of the African teachers than the non-African.

One might have expected more of those teachers who endorsed a prescriptive approach to population education to anticipate student opposition, but this was not the case. Seventy percent of those endorsing a prescriptive approach said they expected no opposition, just as 68 percent of the teachers endorsing a value-fair approach expected none.

Advice concerning curriculum planning. Assuming some interest on the part of the teachers in the sample, a few questions were included to solicit

Table 7
Expected Opposition of Teachers
To Population Education (percent)

Expectation	Religion				Ethnicity	
	Cath. N=90	Prot. N=130	Muslim N=10	Hindu N=18	African N=191	Non-African N=129
None expected	61%	71%	100%	89%	64%	74%
From parents	24	14	-	-	21	12
From students	4	8	-	-	5	7
From other source	10	7	-	11	9	7
	100%	100%	100%	100%	100%	100%

their advice about introducing population education in a more formal way. In terms of appropriate subjects in which to introduce lessons on population, teachers recommended, in the following order, social studies, the biological and health sciences, and the humanities. The majority of teachers in every discipline opted for the social studies group.

Concerning instructional level, 19 percent suggested Form 1 as the best form for introducing lessons on population. Another 11 percent indicated Form 2; 36 percent, Form 3; 13 percent, Form 4; 7 percent, Form 5; 8 percent, Form 6; and 6 percent did not respond. Two-thirds believed that population issues were best raised by Form 3, at the latest.

Teachers were asked about the most important population teaching materials. Source materials on population and audio-visual materials were given highest priority. A majority of respondents chose these two from a short list of five types of materials. However, at least 30 percent of the teachers also listed teacher's guides and textbooks among the two most needed materials.

As to who should develop such materials (assuming interest and financing), it appears that the teachers would rely first on the KIE (Kenyan Institute of Education), or another curriculum-making group, and then either on the Family Planning Association of Kenya or on an international agency such as UNESCO or the United Nations Environment Program. About 5 percent chose religious organizations. This may be an important finding in light of the curriculum design activities of the National Christian Council of Kenya in the areas of family life and sex education.

In summary, of attitudes towards population education, the most interest was expressed by social studies teachers—88 percent of all the social studies

teachers in the sample said they would introduce population issues into their lessons if curriculum materials were available to help them. The majority did not expect any opposition to the introduction of these lessons. Moreover, the majority of teachers in every dicipline recommended the social studies—economics, history, geography—as the subjects most appropriate for inclusion of population discussions.

Teachers' Attitudes Towards Population and Related Issues

The attitudes of African Kenyan teachers were considered to be more relevant than those with non-African backgrounds. This is especially true in government schools where the number of expatriate teachers will decline in the coming years, and these few will be concentrated in teaching science, where, as has been seen, the least amount of attention is devoted to discussion of social problems. Most of the following discussion, therefore, excludes the responses of non-Africans in the sample.

Population and family planning policies. Only 15 percent of the Kenyan teachers indicated there was no need for Kenya to control her population growth. The majority stated that population growth should be brought into line with economic growth to enable the government to provide a better life for its people, or population growth should be stemmed because Kenya lacks sufficient land and resources for a rapid population expansion. Of the 48 teachers (Kenyan and expatriate) who indicated no need, 22 stated Kenya has adequate resources to support a larger population; 18 stated Kenya needs more manpower and is presently underpopulated; six stated either it was an individual family issue or it should be left to God, two others gave no reason.

When asked how many children a couple should have, given the Kenyan stage of economic development, the mode was four—the same as that given by students. The age of the teachers is probably the main reason why there isn't a greater difference between student and teacher responses. Sixty-five percent of the teachers in the sample were under 32 years of age. As the following table shows, however, student response tends toward fewer children. The data imply that some teachers who were for small family size might recommend a family size larger than that already seen as ideal by students.

Response to one multiple-choice question qualifies the response to Kenya's need to control population growth. While 82 percent stated there was a need to control growth for various reasons, almost as many—78 percent—agreed with the statement that "the problem facing Kenya and other developing nations is not too many people, but a lack of resources." This response is interpreted to mean that these teachers do make a distinc-

Table 8
Teacher and Student Recommendations on Family Size Given State of Kenya's Development (percent)

Number of Children	Teachers N=205	Students N=1338
1 - 2	6%	11%
3	14	22
4	45	40
5	13	14
6	14	8
7 or more	8	3
No response	2	1
	100%	100%

tion between population growth and present population size, and they apparently do not perceive Kenya's present population of 12 million to be a problem.

The remainder of the multiple-choice questions and responses are summarized in Table 9. Of the three statements concerning the government's family planning policy (nos. 17, 18 and 19), it appears that a large majority (72 percent) agreed to contraceptive services being made available, even to unmarried girls; a majority (62 percent) disagreed that abortions should be allowed; and a majority (55 percent) disagreed that infertility services should have a high priority in family planning programs. Concerning infertility services, just as with student response, there were surprisingly few teachers who felt it important to help those few couples who have previously been infertile (40 percent of the teachers and 46 percent of the students). Besides possible ignorance of what modern medicine has to offer, it is difficult to suggest any explanation of this response other than the perceived social desirability of disagreeing with this policy. Once they perceived that a heavy focus of the questionnaire was population-related, respondents may have answered in accordance with what would please those conducting the survey.

The responses to issuing free contraceptives, including to unmarried girls, and allowing abortion, varied by age and religion of respondent. The responses, based on the entire sample, vary indirectly with age. Of the youngest teachers (25 years or less), 83 percent favored distribution of free contraceptives including to unmarried girls, and 57 percent indicated abor-

Table 9

Teachers' Responses to Statements Concerning The Family, Wealth Distribution, Sex Roles, Population Growth, and Family Planning

Statement	Responses Agree	Dis-Agree	Other
The Family			
1) It's better to have a big family than a small family.	18	77	5
2) In Africa, most families need to have many children.	20	76	4
3) People are poor usually because they have too many children.	30	66	4
4) Poor people have many children in order to have more help at home.	43	53	4
Wealth Distribution			
5) The Kenyan Government should redistribute the nation's wealth so that the people who are now poor might earn a bigger share.	83	13	4
Sex Roles			
6) If a boy and a girl student, both top students, compete for a university scholarship, it should go to the boy.	33	63	4
7) Men and women teachers should have equal chances of becoming school inspectors and principals.	82	15	3
Population Growth			
8) World wide famine will occur unless population growth is slowed down.	69	28	3
9) As long as family planning helps families to have the number of children they want, it doesn't matter if our population continues to grow rapidly.	24	73	3
10) Population growth is good for economic growth in Kenya.	23	72	4
11) The problem facing Kenya and other developing nations is not too many people but a lack of resources.	62	30	8
12) The students I'm acquainted with already know a great deal about population issues.	30	64	6
Family Planning			
13) No one should try to tell a family the best number of children to have.	42	55	3
14) A high priority in any African family planning program should be to help couples who have been unable to bear children.	44	50	6
15) Modern methods of family planning are dangerous to a woman's health.	43	50	6

(continued on next page)

(Table 9-continued)

16) Foreign aid for family planning is an attempt by the rich nations to reduce the number of people in the poor nations.	28	64	8
17) The Kenyan Government should provide family planning information to anyone who desires it, including unmarried persons.	89	9	2
18) The Kenyan Government should give free contraceptive services to people who want to use them including unmarried girls.	72	25	3
19) The Kenyan Government should allow women to have abortions.	49	47	4

tion should be permitted. Conversely, of those teachers 42 years or older, only 50 percent favored giving contraceptives, and only 34 percent thought abortion should be allowed.

The response when the religion of the teacher is considered indicates that Protestants are the most liberal on distribution of contraceptives (77 percent), followed closely by Muslims (75 percent), then Hindus (69 percent), and finally Catholics (59 percent). While Hindus and Catholics are the least willing to make contraceptives available, Muslims and Catholics are least likely to support legalized abortion. The Hindus (58 percent) indicated an even greater support of legal abortion than Protestants (56 percent).

In sum, the majority of teachers were supportive of policies and programs which are already part of Kenya's population policy, that is, recognition of the need to reduce growth and the provision of free contraceptives to anyone who wants them. The majority were opposed to allowing abortions and to giving high priority to infertility services. Teachers' responses come close to students' in suggesting that, given the stage of economic development in Kenya, couples should have an average of four children (modal response for both groups).

Concerning attitudes towards sex roles and family formation, Kenyan teachers clearly believe that boys need more education than girls, and that they should marry at a later age than girls. Some female respondents from the full sample believed that girls should also delay marriage until the mid- or late twenties. Concerning equal opportunity for males and females, only one-third supported equal opportunities for girls to receive university scholarships.

One supervising teacher indicated that some male teachers in his high school perceived the overall bias of the questionnaire to be one of female chauvinism. He suggested that a high proportion of male non-return and non-response could be attributed to this. While we do not believe the ques-

tionnaire to be biased in such a way, we do, nevertheless, see that it could be perceived by some men as female-oriented in that it was sensitive to the status of females relative to males.

Teachers' Own Family Planning Behavior

While it is beyond the scope of this study to evaluate the relationship between teachers' personal family planning behavior and their positions on population education, it may be helpful to note just how this group of influential adults does behave when it comes to the practice of family planning. Over half (58 percent) of the Kenyan teachers expect to have three or four children; however, as many as one-third expect to have five or more children. As discussed earlier, the average number of children expected by Kenyan adults is around six, and one would expect teachers, who have considerably more education than the population as a whole, to be oriented to a smaller family. The data show that of the 49 teachers expecting five or more children, over half have a university degree.

When queried about their family planning practices, one-third of those responding were currently using a method of contraception. Moreover, only 42 percent of the married respondents were using some method of family spacing or limitation. An additional 40 percent intended to practice family planning in the future. Two-thirds of the entire sample either were currently practicing or intended to practice family planning. (High non-response among unmarried respondents eliminates discussion of their contraceptive behavior.)

CONCLUSIONS: STUDENTS AND THEIR LEARNING ENVIRONMENT

The learning process must begin where the learner is—both in terms of his physical and cultural environment, and in terms of his interests, knowledge, and values. Generalizing from the ideas expressed by students in this survey, Kenyan high school students are aware of, and articulate about, key development issues in their own communities. And, as it turns out, those issues most often identified as community problems are also problems of national concern: Land shortage and distribution, unemployment, inappropriate education, rapid urban migration, inequalities between rich and poor, role and status of men and women, and so forth. A few examples of such student concerns are presented here, as expressed by the students themselves.

- Land is too small to cater to the community's needs. Thus, what is got from the farm is just enough to eat and nothing is left for sale, which implies that financial difficulties are common and hence it is quite difficult to keep the children in school.

- Only the urban areas are being developed, while rural areas lag far behind. Uneven distribution of wealth. Inefficiency in education systems—school leavers can't get jobs without training.
- The government should bring into practice intermediate technology more relevant to the rural community.
- Too many girls are getting pregnant and so can't continue with their education. If only there was a way to avoid the crazy young men, then I'm sure some of our young girls would like to continue with education up to the maximum level.
- Because of people going to towns to get employment; then not being employed. Not developing agriculture. Centralizing industries in one town rather than decentralization.

Approximately one-fifth of the students spontaneously related a population factor to the development problems they identified. About one-fourth mentioned a population variable as a cause of both urban problems and unemployment. (These were open-ended questions.) This particular response is emphasized, not because other factors weren't considered equally or more important, but to indicate that a sizeable proportion of students is aware of population changes as they intensify already existing problems.

While many students may be aware of such relationships in a general way, their actual knowledge of general demographic concepts and trends is rather low. Less than half knew what proportion of Kenya's population is under 15 years of age, what proportion of the population lives in big towns and cities, how many children the average mother has, or approximately how many years it will take for Kenya's population to double. Moreover, only 50 percent knew what proportion of Kenya's land is currently considered fertile for farming.

Based on responses to the attitudinal questions, we find there is no evident pattern of opinion, but a great deal of inconsistency on population and related policies. That inconsistency may be due to indifference: The less interest one has in an issue, the less consistent one's view will be. On the other hand, inconsistency may be due to a conflict between values. It is possible that educated young people today are being pulled in different directions by both traditional and modern values, particularly those surrounding the family and sex roles.

In terms of the issues which students identified as community and national problems, there is no basis for recommending what some call a "population education program." It would be more effective to offer educational activities and discussions centered around planning for the ultimate aims of community and national development such as employment, income, and

equality. This is not to suggest the dismissal of the importance and need for students to understand the role of population forces. After all, the evidence suggests that their present level of knowledge would not enable them to make intelligent decisions in a problem-solving context. It is, rather, an attempt to integrate population concerns in a proper perspective, for students do not perceive population growth or distribution per se to be problems. (Neither do the authors of this study.) Only insofar as a population policy leads to improvements in health, employment, income, equality, and so forth, does it have any value. The real educational need, therefore, is an integrated problem-solving approach to education in development planning.

What are the chances for implementing such an approach in the secondary schools? The syllabus is rigidly organized by traditional discipline areas. That its structure is unsatisfactory has been confirmed repeatedly in discussions held with teachers in many schools we visited. In various ways, they communicated a need to move instruction methods away from a mechanical absorption of facts towards greater emphasis on problem solving. Concerning content, the Kenyan teachers especially felt a need to relate content to the local social and economic environment. In fact, 79 percent of the Kenyan teachers in the sample would support a reorganization of the curriculum around problems facing students and the country.

Despite the rigidity of the present subject-oriented syllabus, a few opportunities exist for moderate changes. Of the sample of teachers, one-third were already leading classroom discussions related to development, health and nutrition, population, and the environment. Possibly with encouragement, particularly in the form of teaching materials and training, these teachers can incorporate the kinds of development planning lessons which are recommended here.

Teachers of general paper, geography, and economics may have the greatest and most relevant opportunities to implement the recommendations. Although general paper is a required course, it has no officially specified content or methodology. Its potential, therefore, is great and some teachers have used it to develop skills neglected in the other discipline-oriented subjects. The contents of geography and economics, while more clearly established than general paper, nevertheless include topics which are directly and indirectly related to development and population (Republic of Kenya 1973).

Finally, particular attention should be paid to improving the knowledge and involvement of female students. Women have been seriously underrepresented in the field of development planning and population policy. In many countries, women are now demanding a larger role in determining and evaluating policies that affect their lives (Dixon 1974). As noted earlier, the female students in this sample were less well informed than the males about

general population characteristics in Kenya. Therefore, it is vital that most female students be reached through whatever subjects are considered appropriate for integrating lessons on development and population planning.

RECOMMENDATIONS

On the basis of this study, the best approach for giving students the knowledge and skills needed to evaluate the validity of arguments and assumptions about Kenya's population policy is to offer them opportunities to plan development for their own communities and perhaps for the country as a whole. Such an approach has several advantages.

- Students will learn how demographic forces—birth, death, migration—affect and are affected by other forces of development.
- Students are more likely to perceive their own roles in population change when they focus on their own communities.
- A learning setting is created in which students find their own evidence and come to their own conclusions based on examination of that evidence.
- As Kenya decentralizes its planning process (International Labour Office 1972), more and more local people will need to understand the underlying demographic and economic arguments related to development in their areas, as well as in the national economy. The schools could provide people with this planning expertise.

What form might such educational activity take? The possibilities are endless, yet this is not the place to recommend a fully designed program. However, a few suggestions are presented as to ways the curriculum can be altered and better integrated with lessons centered around development planning.

The Kisii Case Study

When students were asked how they had learned what they knew about population issues, one student replied, "By touring places like Maragoli and Kisii." These areas are among the most densely settled and rapidly growing rural areas in Kenya. Well over half of the farm holdings in both places are less than two hectares in size. Moreover, at the time of the 1969 Census, both Kisii and Kakamega Districts showed completed fertility rates above the national rate of 6.7 children.

Developing and using a case study allows students to focus on the local level and on an area in which the consequences of population growth are easily recognizable.

The case study should serve only as an introductory example and an opportunity to learn the basic principles of identifying and using demographic data when planning for community development. Students then should be able to carry out an investigation of their own home or school community.

The investigation would involve an assessment of resources and services presently available in the area, including water supply, health clinics, schools and training centers, roads, employment opportunities, cash crop production, and so forth. Based on projected population changes, students can then project community needs for the next 20 years and make recommendations as to how available resources could best be allocated over time. In most communities, students will discover in the process of planning, the problems posed by rapid population growth and high dependency ratios, given fixed or slowly growing resources. For example, in planning for increased school needs, students may find that because of the rising birth rate, building more schools may only mean the same proportion of children will find places in school, instead of the higher proportion as hoped for by the community. Maintaining the status quo is the likely conclusion to be reached when population growth is rapid.

Once the teacher and students have worked through the activity with the information given to them for one area, they can be expected to collect the necessary data on the area in which their own school is located.

From careful examination of Kenya's *Curriculum Guide for Secondary Schools*, the authors believe geography is the most appropriate subject in which to integrate such an activity. One of the four main objectives in the curriculum is " . . . to help the student acquire the necessary skills and attitudes with which to study, interpret, and understand the various environments with which he may have contact, including the skills of observation, recording, analysis and synthesis." The recommended methodology also includes such activities as field work, sample studies, and simple use of statistics. Finally, the particular interest in population studies expressed by geography teachers during the school visits for this study leads to the conclusion they would be the most receptive to such an idea, and perhaps the best prepared to carry it out.

National Policymaking Unit

The second recommendation is one primarily offered to teachers of general paper. As mentioned, general paper is a required course at the Form 5 and 6 levels which has no specified content at present. Since the examination for general paper is not a test of general knowledge but rather a test of a student's maturity of thought (East African Examinations Council 1976),

there is probably some flexibility in terms of what content and activities teachers are free to use to develop critical thinking skills.

The topics listed below are appropriate to a "problems" course and consistent with the goal of developing the capability of evaluating alternative solutions or policies. Each topic can be integrated into a national policymaking unit. The word "policymaking" is used because the unit should focus on decisionmaking and value analysis. Students would be expected to move from the given empirical information and value propositions to a consideration of alternative policies built upon decisionmaking strategies in which both facts and values are relevant (Brown 1971).

The nine topics include agriculture, rural employment, migration, urban employment, population growth, health services, equal opportunity for women, education and training, and regional inequality. The ILO (1972) report, *Employment, Incomes, and Equality: A Strategy for Increasing Productive Employment in Kenya* provides useful information for teachers on each of the above topics, as well as others. One strength of the report is its multidisciplinary approach to examining interrelated and complex problems—teachers may not find a better source of discussion material.

Studies in Population Processes

Based on the student survey, less than half of the students were aware of Kenya's population characteristics and trends. Few students understood a population's age structure or doubling time. Even fewer (20 percent) could explain the meaning of population growth in terms of births, deaths, and migration. Most defined it as an increase in the population, ignoring the variables which cause population increase.

In light of this gap in student knowledge, greater emphasis should be given to the study of the processes of population change. Teachers of both geography and biology should take more responsibility for communicating basic demographic concepts, such as the census, annual growth rate, birth rate, death rate, natural increase, net migration, age structure, dependency ratio, replacement level of reproduction, and population projections.

Besides understanding and being able to apply these concepts, an important goal of such classroom studies is for students to understand how their own actions can change the size and character of the population of which they are members. Below, a list of specific learning objectives is offered which both geography and biology teachers might use in creating such an understanding (Horsley 1973).

Students should be able to:

- identify and discuss the significant population events in their own lives (for example, birth, marriage, moving from place-to-place, having children, death).

- describe how individual population decisions (such as moving to Nairobi) influence the individual and family, and how the collection of individual decisions affects the society.
- categorize the population-relevant events in a person's life into a) those over which he can have some control (for example, marriage, having children, moving); and b) those over which he has little or no control (for example, his own birth, accidental death).
- suggest various personal actions through which an individual can influence population changes (for example, by delaying marriage, planning families, moving to a city or a new settlement).
- suggest various social and political actions through which a person can consciously affect population trends (for example, by changing immigration laws, supporting or opposing legalized abortions, supporting or opposing sex education, improving old-age security benefits).

By focusing on the student's own role in population change, the process of learning basic demographic concepts and use of statistics should be less academic. As Viederman (1974) points out, "Instead of knowledge for its own sake, this educational process seeks to present relevant knowledge for its potential contribution to social responsibility."

Teacher Training

Unfortunately, teachers do not appear to be much more knowledgeable about demographic concepts and trends than do students. The mean score based on nine questions was 4.7 for teachers and 4.3 for students. This poses an obvious problem: How can teachers be expected to increase student knowledge and skills when their own are limited?

The better-educated teachers are slightly more likely to know the general demographic trends in Kenya than others; 42 percent of those with a university education, compared to 32 percent of those with less education, answered at least six factual questions correctly. Presumably, some increase can be expected in overall teacher knowledge as the secondary schools are staffed increasingly by graduate teachers.

This may not be a sufficient improvement. Two additional steps are recommended to better prepare present and future teachers. First, in view of the establishment of a population studies center in the Geography Department, University of Nairobi, all prospective geography teachers should be given special assistance in teaching population processes and issues. Similar assistance should be given to prospective teachers of general science, health, and biology at Kenya Science Teacher's College.

For those already teaching, it may be feasible for the Kenya Institute of Education, as part of its ongoing inservice training program, to offer work-

shops at the provincial level. Such workshops should emphasize appropriate methods for the kinds of development planning activities previously recommended. This will involve attention to the question of teachers using a prescriptive or a value-fair approach. The authors hope that the value-fair approach would be recommended as the most appropriate for lessons in which students are developing value-analysis skills.

Support for Ongoing Family Life Education

Reference has not yet been made to the rather significant activities in the area of family life and sex education being carried out primarily by NCCK (National Christian Council of Kenya). The most pressing needs of Kenyan youth today include their need for information and understanding about human sexuality and the establishment of responsible relationships and family formation. To help meet these needs, NCCK has developed a *Family Life and Sex Education Syllabus for Pre-Adolescents and Adolescents*. The authors strongly endorse the syllabus and recommend its adoption by the Ministry of Education. Issues related to family and sexuality have been given minimal attention in this study, not because they were considered unimportant, but because the authors support the efforts of NCCK in this area and believe their own focus on the community and national levels can be complementary.

In summary, efforts should be made to strengthen existing attention to community and national development planning in the curriculum. In such problem solving or planning contexts, students should be able to analyze and evaluate the implications of population processes and policies. Three specific activities have been offered which could be integrated into existing social studies and biology courses to meet this objective: 1) The Kisii case study, 2) a national policymaking unit, and 3) studies in population processes.

Finally, the authors do not think a population education program is necessary in the secondary schools. Such a program would place undue emphasis on just one variable in the overall development complex. As long as students can be helped to relate specific population variables to an analysis of the problems they themselves identify as important, the school's responsibility will be met.

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Women in Jakarta: Family Life and Family Planning

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Abstract

Interviews with 146 middle- and lower-middle class women in Jakarta, Indonesia, yielded data on a variety of demographic and socioeconomic variables. The differential contribution to fertility of some of these variables is partially explained by a model linking mobility, cultural values, economic development, women's roles, and fertility. Recommended approaches to the reduction of currently high levels of fertility are 1) the linking of women's educational preparation and employment opportunities, and 2) the use of women's informal savings associations (arisan) to inform women about sexuality and family planning, and to promote contraceptive use.

Modern methods of family planning are relatively new to Indonesia, but some women have long been concerned with limiting the size of their families. At the same time, children are considered very important for a harmonious family by most of the diverse ethnic groups which make up Indonesian society. The idea of spacing or limiting the number of children, therefore, must appear in a specific cultural and social context. Both the ideal and actual sizes of families are determined in this context. In any given family, of course, diverse and often contradictory influences are at work.

In this study, we explore some of the complex factors that have affected patterns of childbearing and contraception among urban women in the middle stratum of society in Jakarta, the capital city of Indonesia, in order to

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indicate some ways in which such patterns might be altered through changes in the family's situation. We also offer some practical suggestions for planned attitude change about family planning through group action.

The focus of the study are 146 married women of Jakarta, between the ages of 20 and 50, with a considerable proportion in the age group 30 to 39, living with their husbands, and having borne at least one living child. They are women of the middle and lower-middle class many of whom have been trying to space or limit their families through various methods, but often not very effectively. For the purpose of this study, approximations of socioeconomic status were used, based on the criteria of place of residence and occupation, either determined directly in the case of the employed women, or inferred from place of residence in the case of housewives. In essence, the middle strata of Jakarta society could be described as avoiding the extremes of poverty and affluence.

For these women, the economic aspects of having children are likely to be different from those affecting the fertility choices of the rural poor who make up the majority of Indonesia's population, even though some of the psychological and cultural considerations might be similar. At the same time, none of the women studied could afford to ignore economic considerations. Given the difficult balance between low wages and a fluctuating cost of living, economic considerations are tremendously important to them. These considerations are expressed most clearly in the women's work as household managers, in supplementary earnings through self-employment, and through outside jobs. The women all have some schooling, varying from incomplete primary school to university degrees. All are deeply concerned with their children's education. More than one-third are employed in jobs outside their homes.

Variation in these characteristics of age, education, and employment status made possible the examination of their effects on fertility. Additional variations in ethnicity and religion were also of interest.

The most significant general characteristic of this sample of women, however, is their exposure to many of the rapid social changes which are still in the future for most of Indonesia's population. Education, the employment of women in modern occupations outside the home, adjustments to rapid changes in employment possibilities and family income, and the realization that families can control their size have all been absorbed by them to some degree. They can help us understand the process of change in two ways. Their lives illustrate some of the complexities involved in the interplay between urban residence, social class differences, education, and family size. In addition, these kinds of women will play a role in developments in family planning, both as examples to others and as active participants in their country's family planning programs.

MAJOR HYPOTHESES

The hypotheses in this study attempted to link several independent factors with each other and with fertility as the dependent variable. For the purpose of this report, the major independent variables were age of respondents, age at marriage, employment status, education, ethnicity, and socioeconomic status. Associated with these major variables were husband's occupation, and participation in women's associations, among others.

Age

The first hypothesis, respondent's age, was considered the most significant factor in the number of live births a respondent has had. In addition to the obvious reason of length of exposure to pregnancy, other differences between older and younger women were expected to be found as a result of historical changes which may have affected the position of women in Indonesian society, as well as changes in the availability of contraception that came about through the national family planning program. Younger women, therefore, would be having children at a somewhat slower pace than older women, and would have married at later ages. The younger women also would be better educated, and have been influenced by education to want to have fewer children than the older women.

Age At Marriage

Age at marriage was believed to be a significant factor associated with age itself. Age at marriage might have a significant impact on fertility by decreasing length of exposure to pregnancy, since ages at cessation of childbearing are influenced by both biological and cultural factors. In addition, age at marriage is associated with levels of education since, in most societies, women are unlikely to continue their formal education after marriage. For this reason, younger women, who would tend to have more education, were expected to marry at later ages.

Employment Status and Education

Women's employment status was expected to affect their fertility for a number of related reasons. We believed that most women employed in the occupations selected for study would be somewhat better educated than many housewives. Therefore, women's employment status might affect fertility through its association with education. Expectations regarding the effect of women's employment on fertility were also based on factors of economic and time pressures.

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distinguished from these underlying factors to understand the role which increased female employment opportunities may play in national fertility reduction policies.

Ethnicity

Given the importance of ethnic and religious distinctions in Indonesian national development, these factors were also expected to play an important role in family life and fertility. Some important differences were expected to be seen between Muslim and Christian women.

The selection criteria yielded a group of women which was largely Javanese, Sundanese, and Sumatran in ethnic composition. These groups form a very large proportion of the total population. Two ethnic minority groups long resident in Jakarta were selected for the sample in an attempt to highlight the role of ethnic differences. These groups were the ethnic Chinese—people of mixed Chinese and Indonesian ancestry—and the Minahasa, a group from northern Sulawesi, often referred to as Menadonese in reference to the central city of that area. The Menadonese are largely Christian, including both Protestants and Catholics. The Chinese in the sample were mostly Protestants as a result of selection procedures.

The different historical experiences of the two minority ethnic groups, particularly their pattern of contact with the Dutch in the colonial period, led to some important differences between them and the Javanese, Sundanese, and Sumatrans. In the city of Jakarta, particularly, the two minority groups are generally considered more Western or more modern. Among some other variations associated with ethnic and religious differences might be the effect of religious value systems on women's family roles and differences in family law which are associated with religious distinctions in Indonesia. Other differences might result from acculturation to Western ideas introduced by Christian missionaries. There was the possibility that those ideas included an emphasis on smaller families, family planning, high educational aspirations, and rapid social mobility. In addition, there was also the possibility that minority status itself would produce some differences in the attitudes and behavior of members of the Chinese and Menadonese ethnic groups, including the extent to which individuals participated in the broader society or concentrated their energies on home and family life. The comparisons between Indonesian Muslim and Indonesian Christian groups might also highlight many of the factors which the groups share as a result of their common national identity. In both minority ethnic groups studied, smaller families were expected to prevail, as well as attitudes regarding family stability and divorce that differed from those held by Muslim women.

Choice of Contraception

Finally, we expected to find important distinctions between the different categories of women in the survey with regard to choices available for regulating family size through the use of folk, traditional, or modern methods of fertility control. The relatively educated group of women was presumed to be acquainted with some methods of contraception before the start of the government family planning program which introduced modern methods. Employed and more educated women were believed to be more concerned than the other women with using more effective methods—generally the traditional contraceptives available before the pill or intrauterine devices, rather than folk methods. The distinctions we expected to find concerned shifts in contraceptive use, attitudes toward specific methods, and reasons for preferences, rather than measures of specific contraceptive effectiveness in terms of family size.

In looking at the family planning practices of the women studied, we assumed that, even among urban middle-class Indonesian women, families were rarely planned in advance in terms of size, and that completed family size resulted from the interplay of spacing, fecundity, levels of sexual activity, and decisions about terminating childbearing. Nondecisions were presumably as important as deliberate decisions. Life crises, feelings of ambivalence about contraception and childbearing, and the quality of the relationship between husbands and wives were presumed to be as crucial to family planning in Indonesian society, as they are elsewhere. But the need to achieve a specific limited family size is less conspicuous in Indonesian families—even among educated urban women—than it appears to be in some industrialized countries, and we expected to find a rather large ideal family size even among these women.

SAMPLE SELECTION AND INTERVIEWING METHODS

In its final composition, the sample of 146 women was only partially representative of the middle and lower-middle class of Jakarta; no attempt was made to replicate specific proportions of employed women, housewives, and ethnic groups as they occur in the population of the city.

A strategy of sample selection was devised to approximate some definitions of the middle-class or lower-class in terms of Indonesian, and particularly Jakartan, standards. These definitions are appropriate only to the Indonesian situation and are in no way comparable to the income standards described as middle class in the Western industrial countries. There is no attempt in this study to use income standards derived from other societies for the definition of an Indonesian middle class. The existence of such a

middle stratum is clear enough in Jakarta to make a sampling strategy possible.

An additional consideration in our sample selection strategy was the ease of access to certain groups and organizations because of the contacts of individual members of the research team. We also developed additional contacts in the course of the study. The interest of several women's organizations in the goals of the study was particularly helpful, especially in light of the general interest of these organizations and the Indonesian government in developing a national family planning program.

To contrast women who were primarily housewives with women who held full-time paid jobs outside the home, several sample pools were developed. Women who were primarily housewives were selected through the membership rosters of two women's voluntary associations.

The two women's organizations from which housewives were recruited actively support the national family planning program. They are among the oldest women's organizations in Indonesia, dating back to colonial days. Perwari, a secular organization, draws its membership from among women whose major interest is in service activities, training programs, and the development of women's rights and responsibilities in Indonesian society. The other association, Aisyiyah, is part of a larger Muslim organization (Muhammadiya) and combines religious activities with a program of voluntary work similar to that of Perwari. Since membership in a women's association is a commonly accepted activity for Indonesian women (particularly in an urban setting) the members of these organizations are not significantly different from their neighbors who do not belong, except perhaps in the extent to which they have time available to spend on organizational activities.

Employed women were sought through their employers and through occupational associations. The occupations we sampled included five categories of ten respondents each: Primary school teachers in both private and public schools, secretaries and typists in private and government institutions, pharmacists in both government-owned and private drugstores, and midwives (bidan) working for private and government clinics. These occupations have all been accepted as suitable for women for many decades.

Age was also an important consideration in stratifying the sample groups and an attempt was made to select equal numbers of women over and under 35.

Through experience and research, the investigating team broadened its understanding of some general aspects of Jakarta city life, particularly in terms of the economic structure, which affects all residents in somewhat similar ways. Of interest were the kinds of economic pressures generated by

inadequate wages earned by middle-class husbands, and how their wives respond to such pressures in a cultural setting where the active participation of women in economic affairs is taken for granted.

Comparisons with other societies may define more clearly the limits within which women's economic activities take the form of outside employment once the family can be adequately supported on the basis of one person's earnings. The pattern in Western industrial countries, where affluence also means a lower proportion of female labor force participation, at least in the initial stages of an increase in family income, may be repeated in Indonesia in the future. At the present time, Indonesian women continue to stress their active economic role either in household management, private trade, self-employment, or employment outside the home.

The Research Group

All interviewers were women. Most were already married and had children, although there were also some mature unmarried women, including some with long experience in family counseling. They included trained social workers, volunteers who had taken courses in mental health, staff members of research institutions, and faculty members of universities. The core group of interviewers—who underwent the full course of training and contributed to developing the content and procedures of the interviews—was comprised of 12 women between the ages of 25 and 45. Each had completed at least a high school education, some a good deal more.

Since we believed that the success of the interviews would depend on whether interviewers and respondents shared similar characteristics, they were matched in terms of religion, age, marital status, and ethnicity. The total group of interviewers included several Indonesian ethnic groups: Javanese, Menadonese, Sumatran, Sundanese, and Indonesian Chinese. In terms of religion, the interviewers included Protestant Christians and both observant and nominal Muslims. No interviews were conducted by the non-Indonesian members of the research team.

In general, the interviewers encountered little difficulty during their meetings with respondents, although they were often asked in some detail about the content and use of the interviews. Although the interview guide was designed to move from impersonal to more direct questions, the researchers' training allowed them to follow a respondent's line of thinking provided all material was ultimately covered. Close to verbatim transcripts were handed in by interviewers, which were then coded for analysis. Most of the coders were senior students, many with previous experience as coders on other projects, but none had previously worked with the type of extensive open-ended material contained in these interviews. Supervision of the coding process was carried out by one of the senior coders and a non-Indonesian

member of the research team. All codes were essentially designed in terms of the categories yielded by a preliminary analysis of the interview transcripts. All coding was done from the Indonesian original interviews. All of the coders were women.

The coders as well as the interviewers were also offered a series of open discussion sessions, led by a non-Indonesian senior member of the research team, in which questions of family planning, contraception, and sexuality could be discussed. Many of the interviewers reported intense interest in these topics by respondents.

Throughout the research process, it became clear that one of the important aspects of this project was that all participants were women. (The only male participants were two young men who assisted in administrative matters and bookkeeping without any substantive participation in the program.) A strong feeling of feminine solidarity developed among the participants in this research program. Much of this solidarity reflected a feeling of shared pride that women's matters were considered worthy of social science research, and a realization that the participation of Indonesian women in national economic development and the national family planning program is indispensable to the welfare of the country.

BASIC CHARACTERISTICS OF RESPONDENTS

In general, the sampling procedures were successful in yielding the desired group of respondents, with the major exception of the age distribution.

Although there was an attempt in this study to examine a balanced group of younger and older women, the sample group included more women near the end of their childbearing period than young women just entering it. Only 39 percent of the sample were under the age of 35, while 61 percent were above that age, with the largest single group falling into the age category 35 to 39.

The mean age of respondents in the sample was just under 37 years. While women of this age are usually still fertile, the strong cultural norm that childbearing should end at or before age 40 makes it unlikely that many women over 35 will have additional children. The mean number of live births among women in this sample was 3.9. The mean number of pregnancies was 4.2. The number of live births ranged from one to eleven children for the women in the sample, with 14.4 percent having had more than six.

One quarter of the women in the sample were Javanese and an additional one-fifth belonged to the closely related group of Sundanese and Jakarta *asli* (original Jakartans). The proportion of women from Sumatra and the outer islands is relatively small. As a result of our sampling strategy, Chinese and Menadonese women account for 37 percent of the total sample, much more than their proportion in the total population.

Closely paralleling ethnic distribution is distribution by religion. More than half the respondents are Muslim (57.5 percent). Another 37 percent are Protestant and a small proportion are Catholic or Buddhist. Interview data about the extent of the religiosity of respondents indicated that 70 percent of the women consider religion an important part of their lives and observe daily and weekly religious obligations.

The respondents lived in rather large households. Only 5.5 percent resided in households of four or fewer persons, including the respondent and any servants or boarders. The largest proportion of women (40.3 percent) lived in households of five to seven members, with 35 percent in households of up to 10 members. The remainder (19.2 percent) lived in households having between 11 and 20 members.

In terms of family structure, 41.1 percent of the respondents lived in nuclear families, defined as parents and unmarried children, while about one-fourth lived in families which included relatives of the same or a younger generation. That is, the most common pattern for these women was to live with their husbands and children, and often also with nephews, nieces, and younger brothers and sisters. Among the remaining families, it was much more common for a respondent's family to include her own mother (11.6 percent) than her husband's mother (5.5 percent). Multiple combinations of several nuclear family units, either of the same or different generations, were relatively uncommon (11.6 percent).

The respondents represent a stable group in a city with a high influx of migrants. Fewer than 5 percent of respondents have lived in Jakarta for less than five years, with one-third having lived there for 10 to 19 years and another third between 20 to 29 years. In terms of birthplace, only 24 percent of the women were born in Jakarta; about half the women were born in other parts of Java. Only about 10 percent were born in Sulawesi, which means that some members of the Menadonese ethnic group were born away from the group's place of origin. The rest of the women were born in various provinces outside of Java. Since even those who had been born outside of the city usually came from the rest of Java, it was easier for these women to retain ties to their place of origin through family visits, which continue to play important roles in their lives.

Educational attainment of the respondents ranged from incomplete primary school to completion of university training, although none of the women was illiterate or had no formal schooling. The largest proportion had attended high school (45.8 percent), although some of these women did not complete it. The proportions of women attending primary school were about equal to those who had reached the university level. Compared to the Indonesian population as a whole, this is a highly educated group which is probably representative of the middle stratum of Jakarta urban dwellers.

Among the women in the sample, 39 percent were currently employed in a paid job which took them outside the home, and 61 percent were not currently employed. With respect to age at marriage, 24 percent of the women married at ages 25 or over, and only 13.7 percent married before age 17. This circumstance may indicate a general tendency of urban middle-class women in Indonesia to marry at significantly later ages than rural or poor women.

Finally, the respondents were generally married to men in middle or lower-middle class occupations. The largest category of husbands were employees in private concerns (24.7 percent), with government employees a close second (19.9 percent). The occupational distribution of the husbands may be closely related to the women's economic activities, as well as a number of other factors, possibly including fertility.

FAMILY SIZE AND FAMILY PLANNING

The findings in this section represent the fertility profile derived from this highly selective study of a group of middle class and lower-middle class women living in the city of Jakarta. For this reason and because the sample is small (146 women), caution is indicated in generalizing from the results of this survey to other urban women in Indonesia or elsewhere. Despite the small sample size, however, some of the patterns of childbearing and family planning practices are interesting, and may be compared with the results of larger surveys of fertility and family planning in Indonesia.

Patterns of Childbearing

Age is one of the most important factors explaining differences in childbearing activity, but the somewhat surprising conclusion in this study is the lack of evidence of a significant difference in the pace of the childbearing activity between older and younger respondents. Those who were less than 35 years old at the time of the interview had, on the average, 1.91 children by the time they were 25. By the time they were 29 they had an average of 2.96 children, and 3.41 children when they were 34 years old.

In contrast, older respondents (35 and older) had averaged 1.44 children by age 25, 2.63 children by age 29, and 3.89 children by the time they were 34. The differences between the average number of children of the older and younger age groups are not significant at any age, but they do suggest that younger respondents may be having children at a slightly faster pace than older respondents at comparable ages. However, the younger respondents had generally married earlier than had those over 35, which may contribute to their having had more children than older respondents. In other words, they have had a longer period of exposure to childbearing than the older respondents had at the same ages.

Although younger women did not appear to be establishing childbearing patterns significantly different from those of older women, childbearing activity did vary among the respondents when they were grouped by other characteristics. A strong inverse relationship exists between educational level and the average number of children. Among younger respondents, the difference is somewhat smaller than among older respondents, but even for younger respondents the level of education still bears an inverse relationship to the average number of children.

The relationship between the average number of children and current economic activities of the respondent is not as clearcut as that between education and the average number of children. Several important aspects must be considered in evaluating the economic role of Indonesian urban women and how this factor, in turn, may affect fertility. Women in Indonesia have historically played important roles in earning money for family support—through participation in agriculture, in marketing, in the production of handicrafts, and in the service sector. In this respect, Indonesia is different from other Asian societies with a largely Muslim population, such as Pakistan and Bangladesh, where women are discouraged from activity outside the home, but resembles other Asian societies where Islam does not play an important role.

Because the roles of education and women's employment were so central to our study, these variables are discussed in a separate section below.

Two other factors seem to affect the average number of children the respondents have had. One is ethnicity. On the average, the Chinese have had the fewest children. The Sumatrans and the Sundanese have had the largest number. Javanese and Menadonese respondents have had an average of 3.8 children, close to the average of the sample as a whole. The average number of children that respondents have had also varies with husband's ethnicity, and the pattern of that variation differs only slightly from that derived from the respondent's ethnicity. Families where the husbands were Sundanese are the largest (5.11 children on the average), while respondents whose husgands were Chinese have had the smallest families (2.86 children). When the ethnicity of the husband is considered, respondents whose husbands were Javanese have averaged more children (4.21) than respondents whose husbands were Sumatrans (3.79 children) or Menadonese (3.87 children).

The average number of children also varies with the religion of the respondent. Christians (both Catholics and Protestants) have had smaller average families (3.18 children) than Muslims (4.35 children). In this study, there is a link between religion, ethnicity, and fertility since the ethnic Chinese in the sample (who averaged the smallest number of children) are predominantly Christian and all the Menadonese are Christians.

Family Planning Practices

The question of family planning acceptance is important in Indonesia and the women who were interviewed in this survey were remarkable with respect to the large proportion who have ever used some means of family planning. About 80 percent of these women had used at least one contraceptive method during their married lives, and 63 percent of them were using some family planning method at the time they were interviewed.

This is a surprisingly high level of contraceptive use as compared to other urban women in Indonesia and is probably due to the factors of socioeconomic status and education. The Fertility and Mortality Survey (Lembaga Demografi 1974) provided evidence that contraceptive practice was much more prevalent among more educated than among less educated women.

The methods which the respondents reported as having used were varied. They have been grouped into three types.

- Folk methods. Include abstention from intercourse, coitus interruptus, infrequent intercourse, massage (according to a method specifically designed to prevent conception), prolonged postpartum lactation, and the drinking of herbal medicine (jamu) specifically designed to prevent pregnancy.
- Traditional methods. Available in Indonesia for some time preceding the introduction of the present government-sponsored family planning program. They are foam, douche, diaphragm, condom, abortion, and the rhythm method (called the calendar method by most women who used it).
- Modern methods. Include sterilization of either wife or husband, injection, intrauterine device, and oral contraception.

Survey results show that more respondents (46 percent) have used rhythm than any other family planning method, although a third of the respondents have used the pill and around a fourth have used the IUD at one time or another. Respondents who have used rhythm usually have not used an effective supplementary contraceptive device, relying instead upon abstinence or coitus interruptus during the fertile period. Fewer respondents (14 percent) than expected mentioned using herbs to prevent pregnancy although herbal medicine is quite common for many different purposes in Indonesia. Of the respondents who have ever practiced family planning, two-thirds have used a traditional contraceptive method at some time. Fewer than half have used a modern method. Moreover, 30 percent of these respondents indicated that they have relied on such folk methods as nursing for a long time or drinking herbal medicine at some time.

When asked about the first method of family planning ever used, the majority indicated a traditional method. Those respondents less than 35 years old, however, were more likely to have used a modern family planning

method as their first method than were women 35 and over, who were more apt to have used either a traditional or a folk method as the first family planning method.

Respondents with less than a high school education were fairly evenly divided by folk, traditional, or modern method used. Those who had completed at least high school were more likely to have used a traditional method than any other. Contrary to expectations, the main difference between the two groups was not a greater tendency for the more educated to have begun family planning with the pill or IUD; about the same proportion of respondents who had not finished high school started with a modern family planning method as those who had finished high school. Rather, the two groups differ most in the proportions using folk or traditional methods, with the less educated respondents being more likely to have first used a folk method and the more educated to have first used a traditional method. Respondents who had had less than an elementary school education were much less likely to have first used a modern family planning method and more likely to have used a folk or traditional method first than respondents who had completed six years or more of schooling but had not completed high school. Among respondents who had finished high school, those with some university or other schooling beyond high school were much more likely to have first used a modern method of family planning than those with only a high school education. Respondents who had not gone beyond high school were likely to have used a traditional method of contraception first.

When both age and education were examined together, younger and less educated women were found to have used the pill or IUD as their first family planning method to a much greater extent than older or more educated respondents; these older women generally began their practice of family planning with a traditional method. The profile of respondents who were less than 35 years old, had less than a high school education, and had first used a modern family planning method coincides with the characteristics of new acceptors in the government-sponsored family planning program. New acceptors in the government's program (which until recently emphasized the pill and IUD) are women with an elementary school education or less. (Moeljodihardjo and Clinton 1974) The greater tendency for younger women in the survey to have first used a modern family planning method may be attributed to their being motivated by the government program to try family planning.

Respondents were also asked what contraceptives were being used at the time of the interview. Women less than 35 years old were much more likely to be using the pill or an IUD than their older counterparts who relied more on traditional methods. Education also had an effect on the type of contraceptive currently used. Although about half of both groups—those with

less than a high school education and those with at least a high school education— were relying on traditional methods, no one in the latter, more educated group was using folk methods and almost half depended on modern methods. On the other hand, 20 percent of the less educated respondents were still using folk methods at the time of interview, and only 30 percent were using modern contraceptives.

Obviously, some respondents were using a different method of family planing at the time of the interview than when they had started family planning. Those who first relied on a traditional method were less likely to have changed methods by the time of the survey than those who had first used either a folk or modern method. If they had changed their method, it was usually to the pill or IUD and not to a folk method. Women who had first used a modern method were somewhat more likely than those who had first used a traditional method to have switched by the time of the interview; if they did switch, it was likely to be to a traditional method. Finally, respondents whose first method was a folk method were a little more likely to have changed to a modern family planning method than to a traditional method at the time of the interview if they had changed at all. There are also some differences in current contraceptive practice among respondents by ethnicity. Javanese and Sundanese women were somewhat more likely to be using the pill or IUDs than respondents from other ethnic groups. The Menadonese were more likely to be using a folk method. The Chinese and Sumatrans were more likely to be using a traditional method. Overall, however, the differences by ethnic group are not striking.

Perhaps as important as identifying the methods women are using or have used to limit or space pregnancies, is knowing when they first turned to contraception. Although very few (6 percent) began practicing contraception before the first child, 37 percent began after the birth of the first child. Another fourth turned to family planning after the birth of a second child. Others waited until after a later birth. Since so many have used some form of family planning, they appear to basically approve contraception—at least for spacing births, if not for limiting them. While only a few respondents had actually used contraception before the birth of their first child, 43 percent agreed that it was all right for women in Indonesia to practice contraception immediately after marriage. Of the others, 48 percent disapproved of the practice, and only 9 percent had no opinion.

Many of the women who disapproved of this practice emphasized that, after marriage, "it is best to have a child first," according to an Indonesian adage. Disapproval by other respondents rested on the fear, expressed by one of them, that a couple using family planning before having a child "might not have any children at all."

The practice of family planning depends not only upon attitude, method,

and timing for its success but also upon the relationship between husband and wife, particularly when the method used requires the husband's cooperation. The respondents were asked whether they had discussed family planning with their husbands or were planning to do so. Of the group, 88 percent acknowledged that they had or were going to discuss family planning with their husbands. Only 5 percent of the respondents admitted to using contraception without their husbands' knowledge or consent. According to the respondents, many husbands seemed willing to cooperate with their wives in the use of rhythm, a method requiring some restraint, if supplementary contraceptives were not used by the couple. Some respondents indicated that their husbands even kept track of their wives' fertile or infertile days during their monthly cycle. However, the kinds of strains the practice of rhythm puts upon couples is unclear from the interviews.

Some respondents said that they slept with the children during fertile days. This practice is not unusual among Indonesian families, although there are differences between urban and rural families, and differences according to standards of living. In general, among the families in our study, some flexibility in sleeping arrangements was usual. Even children beyond infancy could often sleep with the mother in the same bed, either as a regular arrangement or intermittently. Sleeping arrangements, even among these middle-class urban families, were less fixed than they appear to be in many Western countries. The use of shifting sleeping arrangements seems to be an important factor in regulating the frequency of marital intercourse, and is often deliberately used in conjunction with the rhythm method to decrease the probability of sexual desire, particularly by the husband, during the wife's fertile periods.

The respondents also showed a somewhat greater willingness to discuss family planning with their husbands than to discuss that same subject or menstruation or the intimate aspects of marriage with their daughters. About two-thirds said that they had discussed those aspects of marriage or menstruation with their daughters or planned to do so, while only a little more than half said that they would discuss family planning.

To sum up, if we examine the patterns of both contraceptive practice and childbearing, it is clear that, while most respondents were using or had used some means of family planning, the level of effective use was fairly low. One reason is that many of the respondents were using traditional methods, particularly rhythm, a method requiring a higher level of motivation and care than the pill or IUD. Other traditional methods also may require the active commitment of the husband if they are to be successful in preventing conception.

The fact that these respondents using contraception at the time of the survey already had an average of four children is related to the family size

that the respondents considered ideal. While the tendency was for more of the younger respondents to prefer a two or three-child family, nevertheless, about four-fifths of the respondents, regardless of age, thought that the ideal family should number four children or more.

When respondents were asked their reasons for preferring a given family size, a woman who preferred a large family, mentioned that a large family is noisier, more crowded, and happier than a small family. As one respondent said, "In a small family, you often feel lonesome." Respondents who preferred a small family, however, felt that it is easier to raise and discipline children when one has a small family and that large families are often "in a mess."

Three-fifths of the respondents indicated they had had enough or more than enough children at the time of the survey; but by then they had already had an average of about four children. This feeling was more common among the women who were not employed outside the home (67 percent), than among the women employed outside the home (54 percent). Apparently, since employed women in the sample had a smaller average number of children than the housewives, they felt that the smaller family was not large enough and that they might like more children.

In summary, since these families are already much larger than what could be considered ideal if Indonesia is to solve its pressing population problems, families need to be motivated to limit births not to achieve the number they consider ideal or manageable, but to limit them to about half the number they consider the preferred family size.

WOMEN'S EMPLOYMENT, EDUCATION, AND FERTILITY

To summarize the findings bearing on the relationships between education, employment and fertility for the women in this study, we found that 1) Better educated women had somewhat fewer children, on the average, even when age differences were taken into account. 2) Similarly, women who were employed outside the home had somewhat fewer children, on the average, than those who were not. Age may have been a factor in this difference since employed women tended to have married later than housewives. Moreover, age and employment status were not significantly related for the women in the sample, but age and levels of completed schooling were highly related. In other words, although younger women were likely to be better educated, they were not more likely to be employed than older women. 3) Women who have slightly smaller-than-average families are likely to be somewhat better educated than women with large families, and the likelihood is greater that they are employed in a job outside the home. None of this is particularly surprising, but additional factors developed in our study

may help to explain some of the antecedents and consequences of these relationships.

Although Indonesian women have a long tradition of economic activity, urban women have also been deeply affected by the economic instabilities of the decades since Indonesian independence. For urban women whose families depend on the earnings of persons employed in the public sector (where wages and salaries often lag seriously behind changes in the cost of living), these economic instabilities have meant that women like those in our study needed to help supplement family income. In many instances, the economic activities of middle-class and lower-middle-class women fluctuated in response to the immediate economic needs of the family. Women might search for earning opportunities when men's wages lagged behind a rising cost of living. When wages were on a par with living costs, these women might withdraw partly or completely from their earning activities, and this general pattern is socially accepted. Women who begin to raise chickens and sell eggs because the salaries of their government-employee husbands no longer support the family do not face social disapproval from their middle-class friends and neighbors. The pattern of economic instability also places a premium on having and retaining permanent, full-time employment, particularly in a government job where the perquisites of the job (access to housing, transportation, monthly rice rations, and so on) are often more significant than the actual wages or salaries.

Two major types of economic activity by women earning an outside income are considered in this study: 1) Work for an employer outside the home, and 2) self-employment inside or outside the home. There are significant differences in the average number of children between employed women and those with no paid job outside the home. The 57 employed women we interviewed have an average of 3.33 children, while the 89 women who were primarily housewives have 4.26. On the other hand, no significant difference was found in terms of the average number of children between women who earned some income (either through a job or self-employment) and those who did not. This suggests that the critical difference with respect to number of children is between women who hold jobs outside the home and those who do not, rather than between women who earn an income and those who do not.

In terms of both employment status and age, certain differences become apparent. Of the housewives over 35, 50 percent had larger families (five or more children), while only 35 percent of the older employed women had that many. Among women under 35, 92 percent of the employed women and 77 percent of the housewives had small families (one to four children). An important factor is the significantly later age at marriage among employed women. Of currently employed women, 74 percent were married at age 22 or

later; this was true for only 43 percent of the women who were not currently employed.

For most women in this study, the interval between marriage and childbearing was brief. Among the currently employed women, over three-fourths of first pregnancies occurred in the first year of marriage. Among the housewives, two-thirds of first pregnancies took place in the first year. In no case was the first pregnancy outcome delayed longer than five years after marriage. The significance of this finding is that for employed women, employment did not have the expected effect of delaying childbearing.

Another relevant connection between patterns of childbearing and the economic activities of women concerns family structure and household composition. The argument has often been made that the presence of the extended family makes it possible for women in Asian societies to combine an active economic life with a large number of children. A sizeable proportion of all respondents (44.5 percent) lived in nuclear or incomplete families. About 63 percent of employed women, as compared with 50.6 percent of housewives, lived in families where other relatives were present. This suggests the possibility that living in an extended family household makes it more likely that a wife has outside employment. It is not clear, of course, whether wives seek employment because of the need to support a larger family, or whether they can more readily find outside jobs if a relative can help with childcare and household tasks.

The final part of this discussion of economic roles and fertility concerns differences between employed women and housewives on family planning practices and attitudes related to childbearing. No significant relationship was found in the study between employment status and whether the respondent had ever used any family planning method. When respondents were asked whether they had ever used any kind of family planning method, 84 percent of the currently employed women and 76 percent of the housewives stated that they had done so.

At the time of the interview, women using some form of family planning (70 percent of the employed women and 64 percent of the housewives) preferred the rhythm method, with or without additional contraceptives such as condoms or foam. More than half of the family planning users among the employed women and 39 percent among the housewives were using the rhythm method when interviewed. Among the employed women and the housewives practicing family planning, the pill was the next most frequently used method; equal proportions of both groups (25 percent) reported its use. All other methods, including the IUD, had very small numbers of users.

If the patterns of use of modern methods of family planning (pill, IUD, sterilization) are examined for the two groups of women, some differences emerge. Among housewives, only 43 percent had ever used a modern

method, while this was true for 63 percent of the employed women. Among employed women who had ever used a modern method, slightly over 50 percent had started to do so after the birth of a second child or earlier, while this was true for only 42 percent of the housewives who had ever used a modern method.

Since more of the employed women had married at later ages than was true for the housewives, an important aspect of family planning is the age at which women terminate their childbearing. In this respect, there is a curious difference between employed women and housewives. The women were asked at what age they themselves would choose or had chosen to terminate childbearing, and also at what age Indonesian women in general should consider not having more children. Only 5 percent of the employed women and 12 percent of the housewives said childbearing for Indonesian women in general should end before the age of 35. Nineteen percent of the employed women compared with 10 percent of the housewives believed that the best age for terminating childbearing was after 40. Strikingly, more of the employed women perceived later ages as generally desirable than was true among housewives. This contradicts our expectation that the employed women would express the pressures of their own busy lives in favoring an early end to childbearing. It also probably reflects their own relatively late age at marriage, as well as a wish to have more children.

In both groups of women, there were some women whose personal choices differed from the perceived cultural norms about Indonesian women in general. Here again, more housewives than employed women preferred the earlier ages for cessation of childbearing. Among the employed women, only 28 percent would choose (or had chosen) to stop at ages before 35 compared to 37 percent of the housewives. Forty percent of the housewives and 46 percent of the employed women favored stopping childbearing between 35 and 39, with the remainder in both groups choosing ages past 40.

The two groups of women do not differ significantly with respect to the ages at which men (their own husbands or Indonesian men in general) should cease fathering children. Of all respondents, 58 percent place men's age limits at 40 years and above, with only 20 percent favoring an earlier age. The idea was frequently expressed that the most important determinant of setting age limits for the husband was the economic factor. If husbands were already pensioned, or if their earning capacity was less because of age, they would not be able to support children properly because education was expensive. In the case of the women, the argument for setting an age limit to childbearing was most often expressed in terms of health and physical strength.

Our assumption that the employed women in the sample appear to be compensating for their relatively later age at marriage by accepting a rela-

tively late age for cessation of childbearing indicates that the idea of limiting family size to two or three children is still far from being accepted even by educated, urban, middle-class women.

An interesting finding in the study concerns the relationship between age and education. Younger women have attained higher levels of schooling than have older women, but when employed women and housewives were considered separately, age and education were not significantly related for the currently employed women. Only among the housewives were age and education strongly related, with the younger housewives tending to be better educated than the older ones.

This difference does not exist among the employed women. Among both younger and older employed women, about 10 percent have had some university education. (The three women in the sample with university degrees are all employed women over 35.) Among the employed women, only 31.6 percent had less than a high school diploma, but these women were almost evenly divided between older and younger age groups. Among the housewives, 61.8 percent had at least some high school education. Two-thirds of the less educated group of housewives were over 35. These figures imply that education for women has been available in Indonesia long enough for even the oldest women in the sample to have taken advantage of it at relatively high levels of schooling.

At the same time, education alone does not necessarily lead to greater labor force participation. Among the younger housewives, this may be explained by the relatively greater availability of education for women in recent years and, possibly, improved economic conditions. The generally low rates of employment attrition would indicate that women do not quit their jobs to have children although they may quit when they first marry. Rather, the pattern seems to include both childbearing and continued employment.

As expected, there is a clear and significant relationship between the levels of schooling achieved by the women and their ages at marriage. We found that 50 percent of all respondents had completed at least high school. Of the women who married at or before the age of 21, 74 percent completed only lower levels of school, while 70 percent of the women who married at 22 or later had completed high school or better. These figures imply that it is uncommon for Indonesian women to continue schooling after marriage, although some of the respondents did so.

We also found that age at marriage and education were strongly related only among women over 35. In other words, among women under 35, age at marriage and schooling are not as clearly related as they are among older women. When the respondents were asked whether they were satisfied with the levels of education they had completed, 58 percent answered that they were not. They had wanted to achieve some higher level, but circumstances did not permit them to do so and they had no present plans to resume formal

schooling. A much higher proportion of housewives (64 percent) than of employed women (49 percent) made this statement. An additional 10 percent of the respondents, in addition to being dissatisfied, were in the process of continuing their education or had plans to do so. Among these respondents, employed women were much more numerous than housewives. Only 25 percent of the respondents said they were satisfied with the level of education they had achieved.

The women's emphasis on education in their own lives reflects the same values associated with problems of gaining admission for their children to a good school and anxiety about being able to pay tuition. It is clear that education has played an important role in the past in the development of an urban middle class and will continue to be crucial to upward social mobility.*

The children of respondents in this study were expected to continue their education as long as possible. Among the 62 families with children between the ages of 12 and 15, we found only one family in which several children were not attending school. More surprisingly, among the 50 families with children aged 16 to 18, only three women reported that children were not attending school.

In terms of stated preferences for an ideal number of children, there are no differences between the less educated and the more educated women, even when age is held constant. The preference for a four-child family—no more, no less—is so strong that it is the preferred choice of women at all levels of education and in every age group. About 53 percent of all respondents want a four-child family, only 20.5 percent want fewer children and all the rest want larger families. Half of the respondents who want smaller families come from the ethnic minority groups, while 70 percent of those who want five or more children come from the majority Javanese, Sundanese and original Jakarta groups.

Education is highly related to the women's expressed feelings about the size of their families—but in an unexpected direction. More of the highly educated women feel that they do not yet have enough children. Sixty percent of the women expressing this sentiment are at least high school graduates, while 56 percent of the women who feel that they have enough or too many children have not completed high school. This parallels the dif-

*During the colonial period, the separate educational systems developed by the Dutch emphasized racial, ethnic and class distinctions among Indonesians, often involving mastery of the Dutch language. Education played an important role in the development of Indonesian nationalism through the development of schools which tried to counter the differentiations imposed by the Dutch. The development of an Indonesian national language was an important aspect of this process.

ference between employed women and housewives, where we found that more of the employed women feel they do not yet have enough children. The most reasonable explanation for this unexpected difference is that both the more highly educated and employed women (the two groups, of course, overlap) married relatively late and may be trying to catch up to having their ideal number of children.

Finally, we found that there is no apparent difference between women with differing educations in the numbers of brothers and sisters which they had. We had expected that women coming from very large families would have found it more difficult to get an education than women from small families. This was not the case. A substantial proportion of all respondents came from very large families. Thirty percent have one to four siblings, 50 percent have five to nine siblings, and the rest have more than ten brothers and sisters.

Obviously, in this brief summary of research findings, it is not possible to provide the details of interrelationships between the variables ultimately related to fertility.

One point must be kept in mind, however. This study of a middle-class urban group makes it clear that women's economic activities may be related differently to their family life at different stages of social mobility. This point is also related to the economic value of children. While poor children in rural areas may contribute to family income from early ages on, this is not true for middle-class children in urban areas. Similarly, mothers in middle-class urban families may make their economic contributions to family living standards by their work as household managers and educators of children in ways suitable to the family's middle-class status. The earning activities of women in middle-class families must be considered in light of these factors. It is clearly not sufficient to evaluate them in terms of labor force participation statistics. Women's labor force participation is probably higher among less educated rural women, who work in the fields, than it is among more highly educated urban middle-class women. In both cases, the overall income and living standards of the entire family will determine the form of women's contributions to family welfare: As workers in the field, or as workers in the home. It is possible that the labor force participation of educated middle-class women is most highly related to a set of factors, including husband's earnings, family aspirations, and women's education for a rewarding occupation.

The complexity of these interrelationships should make it clearer why there are few specific relationships between women's labor force participation in aggregate terms and fertility in aggregate terms. In order to understand these relationships, socioeconomic distinctions will be of the greatest importance.

ARISAN: WOMEN'S INFORMAL ASSOCIATIONS FOR SAVINGS AND SOCIABILITY

Three-fourths of the women in the study belonged to one or more arisan—groups which met for sociability and to implement a joint saving program. Such groups are an accepted part of Indonesian society, both in urban and rural areas. Men and children also form arisan groups in both urban and rural areas, but they are particularly important for urban women because they offer a combination of economic and social advantages found nowhere else. Arisan meetings provide a place for meeting friends, neighbors, or relatives and at the same time, serve as informal savings institutions. We suggest that arisan groups might function as support groups for family planning.

Usually, an arisan comes into existence when a group of women from the same neighborhood or place of work decide they want to save money for a particular durable item. None has enough money to buy it outright. None thinks herself capable of saving the money on her own. Together the women join in a cooperative effort to save a specific sum over a specific time period. Each woman then contributes a certain amount each month to the common pot. At each meeting the entire sum is awarded in turn to one of the members. Turns are determined by lot. As a result, each member receives the total pooled contributions of all members once in the lifetime of the arisan. This sum equals her own total contributions.

Most arisans operate on a schedule of regular, usually monthly meetings in the homes of arisan members, with the place of meeting rotating according to who won the pot the meeting before.

Arisan groups may be in a neighborhood and are usually organized by the wife of the head of the smallest neighborhood administrative unit, the R.T. (Rukun Tetangga). Other arisan groups may be organized around extended kinship ties in a family arisan, although these are apparently more common in some ethnic groups than in others. The most important kinds of arisan are those organized around existing ties of friendship or among co-workers. We have called these the non-family arisan type.

The most important features of the arisans found among the women in the study were the following: 1) The group is formed around a concrete goal, stated in terms of economic value. 2) The group is organized among members who are already known to each other or who share some common experience. 3) The group sets up a regular schedule of contributions; members receive equal disbursements and make equal contributions. 4) The group is usually small enough to accomplish its savings goal in the period of a year. 5) The element of luck is involved and attracts members. Those who win a turn early in the cycle are lucky.

There are several additional characteristics which may or may not be present in an arisan. Members may share obligations of mutual assistance, for example, in the case of a family emergency or special ceremony such as a wedding. In some arisan meetings, members may use the opportunity for additional economic transactions, such as selling batik cloth, jewelry, and other items to others in the group. In this way, the arisan is an important part of the economic networks of women entrepreneurs. In addtion, women exchange information they find useful. Recipes, sewing skills, and discussion of childcare problems concern the women in their roles as mothers and housewives. Other kinds of information exchanges often contribute to the social solidarity of a neighborhood or other association.

Finally, there is explicit emphasis on the element of sociability. Many women stressed that they enjoyed the sociability of the arisan meetings although their husbands sometimes did not approve of them. However, the fact that saving money was involved made the women's time spent at arisan meetings more acceptable to their families.

Among respondents, arisan participation was widespread. Among all the women, 74 percent belonged to at least one arisan at the time of the interview and some women belonged to as many as six to eight different arisan groups. Among the different arisan types, the non-family arisan was the most popular, accounting for 57 percent of the various groups. Neighborhood arisans accounted for 29 percent of the total, and family arisans for only 14 percent.

When arisan attendance was measured, 38 percent of the members of arisan groups said they went to meetings once a month, 26 percent went to two meetings, 15 percent to three, with the remainder going to even more meetings.

The women gave a variety of reasons for participating in arisan groups. Half of the 98 arisan members said that they participated because sociability was important to them, while 19 percent said they belonged for economic reasons. The remainder described a mixture of social and economic reasons for joining an arisan. Those women who did not belong to any arisan said they saw no economic benefits to membership. Women in families of higher income tended to emphasize the economic benefits of arisan saving less because other savings intitutions, such as the newly available high-interest savings accounts in banks, are more easily accessible to them. Poorer women remain more reluctant to entrust their small savings to the banking system.

However, if one examines the amounts of money deposited each time and the total amounts withdrawn, it becomes clear that they are often substantial, enabling the women to make important purchases. This suggests that the actual savings role of arisan groups is even more important to the women

than they say. The main point is that they are able to accumulate a lump sum by this method which they feel they could not save on their own.

Of those women who do save through an arisan, the majority (56 percent) said that they used the money to purchase a specific needed item and 21 percent stated that the money was saved or banked. Only 19 percent of the women said that the money went into their general household accounts and was not used for any specific purpose; the remaining 4 percent gave it away to charity or to support relatives. In other words, about 80 percent of the respondents achieved a specific purpose through arisan saving and managed to put aside a definite amount of money for a desired item or for further accumulation of funds.

To evaluate the importance of money contributions and savings, some aspects of the economic situation of these women should be emphasized. In comparison with cities in more industrial countries, in Indonesia food prices are generally somewhat lower, while the prices of consumer goods are substantially higher. Since wages and salaries received by persons in most middle-class occupations in Indonesia are low in comparison with those in the other, largely agricultural nations in Asia, men and women are often compelled to find supplementary employment. An arisan contribution of Rupiah 1,000 ($US2.40) per month to one arisan is the general equivalent of one day's total food expenses for a moderately sized household. Receiving Rp. 20,000 ($US48) at one of the drawings is the equivalent of the total monthly money wage of many civil servants in the lower-middle ranges of the bureaucracy. However, in terms of the actual living standards of many middle-class families in Jakarta in 1974, Rp. 20,000 was sufficient to cover only one-third to one-half of the total monthly family expenses.

When asked about their contributions to arisans, 57 percent of the women said they gave less than Rp. 2,000 ($4.80) per meeting, while another 20 percent contributed between Rp. 2,000 and 5,000. A surprising 22 percent of the women, however, mentioned that they made monthly contributions of Rp. 5,000 ($12) indicating that they were able to save a rather substantial amount per month for contribution to the arisan pool, often out of household accounts. Up to Rp. 20,000 (US$48) in lump sums were received by 57 percent of the women, presumably once a year (although this would vary with the size of arisan and the frequency of meetings). Another 20 percent received between Rp. 20,000-50,000, while the remaining 22 percent received lump sums of Rp. 50,000 (US$120), or more.

To determine further the economic significance of the arisan, a comparison was made of the participation of employed women and housewives. Many more employed women (86 percent) than expected are members of arisan groups, and fewer housewives (67.4 percent) belong. This finding reinforces our belief that, contrary to the women's expressed feelings about

the importance of the arisan's sociability function, the economic role of the savings groups is, in fact, of great significance to them. Women employed outside the home in this sample are generally under more severe economic pressures than housewives, and generally have more social interaction with persons outside their households than do many housewives. These assumptions are confirmed by comparing the two groups of women with respect to their reasons for belonging to arisans. Among the employed women, 26.3 percent belong for reasons of sociability only, while 24.6 percent belong for economic reasons; the rest give mixed reasons. Among the housewives, on the other hand, 37.1 percent stress sociability and only 5.6 percent say their motivations are economic; the rest is mixed.

A small group of this type is probably adaptable to changing circumstances, as long as the central feature of pooled savings and rotating withdrawals from the pool is retained. In a broader survey of rotating credit associations in Indonesia and other countries, Clifford Geertz (1962) has stressed some general characteristics of the arisan which he found common among both men and women in cities and villages in Indonesia. He says that the combination of monetary and "harmony" factors—or what we call savings and sociability—is more important to the group than either factor would be alone. In describing the functioning of arisan groups among the somewhat better-off residents of a small town in East Java in the 1950s, Geertz wrote:

> The arisan acts in this context, then, to support the solidarity not of the neighborhood group but of the club, union, or party. The arisan is, in most cases, held after the usual business meeting, its explicit purpose being to attract individuals to the meetings and to intensify the feeling of unity among them. If one is not present at the meeting one cannot win the fund, and club leaders say that clubs which have attached arisans get a much higher turnout than those which do not...[Moreover] the arisan...is the "harmony" part of the club, which makes the "business" part of the club, its central purpose, more effective. (Geertz 1962 p.248)

One of the implications of Indonesian arisan groups indicated in the present study and by Clifford Geertz is that monetary gains and materialistic motivations are not contrary to goals of social harmony, but rather that the process of engaging with others in materialistic endeavors serves to strengthen the harmonious bonds among people. It is the combination of savings and sociability that is crucial to such groups. Quite possibly, groups in which monetary gains and social harmony are combined may do well in a society where great competition occurs among individuals and groups over limited resources. One of the goals of the social planner might then be the encouragement of such groups for specific social purposes.

Arisan groups could also conceivably become an effective means of changing the attitudes and behavior of women with respect to contraception, but a series of social experiments is needed to test this general proposition

and develop workable models. Because mixed motives are important in creating such groups in the first place and maintaining a commitment to shared goals over a specified time period, one possible model for a family planning arisan would have to include not only a commitment to a particular style of contraception but also a specific economic motivation to remain in the group. At the same time, to sustain a high level of personal commitment among participants, such groups should remain independent of existing family planning agencies. Consequently, the actual mechanism linking family planning arisan groups to other agencies engaged in the same family planning effort would have to be carefully tested in the field.

The short-term nature of most rotating credit arisans in the Indonesian setting indicates that long-range bonus schemes would be difficult to implement. (In some countries, these schemes provide rewards for not becoming pregnant, in the form of deposits made in a pension fund by employers during the time a woman is not pregnant. Nor would arisan groups be suitable for systems of incentive payments, such as those designed to reward individuals who have brought others to family planning clinics.)

In an arisan combining economic motivations, sociability, and contraception, a commitment to a particular type of contraceptive would be made independently of a savings pledge, but group meetings could periodically reinforce the contraceptive commitment. The most useful contraceptives for this kind of effort seem to be those requiring periodic refills, such as pills, condoms, foam tablets, and the like.

In an arisan group consisting only of women using the rhythm method, group meetings could be devoted to instruction in methods of measuring temperature, developing the necessary charts, or discussing the use of condoms as backup for the rhythm method. Even though the subject of sex education for young people is controversial in urban Jakarta, the importance of family planning programs is so great that this type of discussion among mature married women is likely to be acceptable to most arisan groups.

Several problems which might arise in such an arisan should be mentioned. These include low levels of knowledge about contraception, and shyness about discussing sexual materials with other women. Indeed, one of the most important problems is probably a reluctance by the women in the group to discuss anything which would reveal frequency of intercourse and other details of sexual activity. Given such reluctance, family planning arisans would have to develop methods to handle the distribution of contraceptives to avoid the possibility of embarassment of invidious comparisons among the members. One of the important questions to be studied in developing a family planning arisan would be the existing cultural norms for sexual behavior in different ethnic groups and at different class levels in Indonesian society if such general norms exist at all.

Family planning arisans may be particularly suitable for maintaining a woman's commitment to the rhythm method of contraception and to improve the efficacy of her use of the system. Rhythm was the most popular method among the women in the sample and its use raises several important points. One of these relates to the sleeping arrangements of women, men and children—a practice with some implications for intimacy, relative strength of sexual desire among women and among men, and relationships between family members. The custom of children sharing the bed of a parent is an important element in Indonesian childrearing. Permitting or encouraging a child to sleep with its mother is an important element in the mother's expression of nurturance and is often culturally permitted for older children as well as infants. The use of the rhythm method for birth control enables the mother in many families to shift from a sexual role to a maternal role through her shift in sleeping place from the bed she shares with her husband to the bed she shares with one or more children. This point should be explored further.

After a commitment is made to join a family planning arisan, members of the group would also have to decide jointly about inviting a person who is well informed about contraception (from either inside or outside the group) to work with them. Moreover, members would have to work out a suitable system for providing periodic reinforcement for their contraceptive choice. To maintain a high level of interest and expectation through the meeting these discussions should precede the financial part of arisan meetings.

Finally, family planning arisans should grow in an atmosphere that will encourage women's private attitudes to develop through genuine psychological transformations rather than through apparent conformity with externally imposed goals. The most important characteristic of existing arisan groups is their independence from large organizations and the often spontaneous way in which they are organized. This feature must be preserved if family planning arisans are to have any chance to succeed in supporting the women's commitment to limit their family size.

REGRESSION ANALYSIS AND SUMMARY

Multiple regression analysis was used to summarize the effect of the major independent variables—respondent's age, age at marriage, level of education, current employment status, ethnicity, family planning use, monthly per capita food expenditures and monthly per child school expenditures—on the dependent variable, fertility.

The factor of age underlies differences in fertility in any sample in which the age distribution covers a wide range. Age was the most important variable associated with fertility in the regression analysis, and accounts for

nearly 20 percent of the variance—more than any other independent variable. As a result, the impact of all other variables upon fertility can be considered with age already taken into account.

Apart from this direct effect of age, distinctions among the women result from generational differences. These differences, in turn, underlie many other important distinctions in the group. For example, changing patterns of female education over time may be seen in the levels of schooling the younger and older women have attained. However, age differences as related to education are much less important among employed women than among housewives. Among housewives, better educated women are more numerous in the younger group, this is not true for the employed women.

Age differences also figure in the choice of a contraceptive. Older and more educated women generally began their practice of contraception with a traditional method, mainly rhythm. Moreover, users of traditonal methods were less likely to shift to other methods than those who had started with a folk or modern method.

Age at marriage is inversely related to fertility, although this factor is far less important than age alone. Some of the most important findings connected with age at marriage emphasize generational differences resulting from the historical experience of Indonesian women. The older women in the sample reached their late teens during the highly unstable period when Indonesia attained its Independence. This often delayed school completion and marriage. Women over 35 in the study group had married at somewhat later ages than women under 35. Later ages at marriage among the respondents are also associated with both education and outside employment.

The effect of age at marriage on fertility is closely related to the Indonesian custom "better have a child first." Among both employed women and housewives in the sample, 94 percent had their first child within the first two years of marriage. More employed women than housewives had a first child in the first year of marriage, indicating they were not postponing motherhood because of a commitment to a job or career.

Given this childbearing pattern, postponing the age of marriage grows in importance in its effect on fertility. A crucial question is whether women who married late and who now consider their families to be too small will in fact have another child relatively late in their childbearing years.

After age at marriage, women's employment status was expected to have an important effect on fertility. The findings support the hypothesis that employed women would have fewer children than housewives. Women employed outside the home do have fewer children on the average (3.33) than housewives (4.26), and these differences are significant. However, if one compares the average number of children for women who are earning some income (either through an outside job or through income-earning activities in

the home) with that for women who do not earn such an income, no significant differences are found. The crucial distinction, in other words, is not whether women contribute to family income but whether they do paid work outside the home.

The link between women's employment and education, therefore, may be crucial, if it is seen in terms of the value changes that accompany social mobility. Relatively well-educated women who have neither the incentives nor the opportunities to be employed in suitable occupations may become highly effective managers of family consumption and educators of their children. Middle-class women who find themselves in these roles would experience less motivation from pressing economic needs to limit family size even though they may have better access to contraception than poor families. Consequently, influences above and beyond economic constraints and contraceptive information are needed to support a shift to smaller family size. The most likely mechanism by which this shift could be achieved is the provision of female employment opportunities outside the home which can be seen as sufficiently rewarding in both economic and psychological terms to compete with mothering and housekeeping. For middle-class and lower-middle-class women, the occupation should be commensurate with educational preparation. Value changes in the direction of lower fertility will occur more readily in a setting where the occupational and educational interests of the women are reinforced.

In the regression analysis, women's employment status approached significance ($F=3.02$) only when the direct economic variables of per capita food costs and school costs were omitted. Therefore, employment status as such has little effect on fertility when other factors are taken into account, according to this analysis.

Education and employment, however, are fairly strongly correlated in the regression analysis. The inverse correlation between education and fertility is strong, with lower fertility occurring among women who had more schooling. Further analysis showed that the actual amount spent on schooling per child is not strongly related to women's educational levels, although older respondents seem to be paying higher fees than the others. These levels of expenditure, however, seem to play a role in affecting fertility through their links with both education and employment. In those multiple regressions which did not include the food and school expenditures as variables, the women's education was the most significant variable (after age) affecting fertility. While age alone explained 20 percent of the variance, the education variable raised the combined explanatory power of the two variables to 27 percent of the variance. Education and fertility were inversely related, as expected. The level of significance of the education variable was high ($F=13.7$), although that for age was even more so ($F=28.0$), when only age

and education had entered the step-wise regression. In those multiple regressions which included the economic variables (school and food expenses) as a proxy for income, however, neither education nor employment status played a significant role in relation to fertility.

We found that the economic variables (food and school expenditures) explain much of the variation in fertility. Both are negatively related to fertility, but only one—per capita food expenditure—shows a relatively high correlation coefficient (monthly per capita food expenditures: −0.26; monthly per child school expenditures: −0.09). In other words, families with fewer children spend more per month on food for each household member and more on school expenses for each child in school. Of course, some directly economic explanations are relevant here, such as higher food consumption by adults compared to children, but they do not tell the whole story. Regression analysis of this type cannot explain cause-and-effect relationships: this complicates the explanation of the importance which economic variables play in those multiple regressions in which they were included. There the most important income proxy (food expenditures) entered the step-wise regression immediately after age (r-square = 0.28) to raise the combined explanatory power of the age and income variables to 33 percent of the variance. Thus, age and income aspects (by proxy) alone account for one-third of the variance in fertility among respondents. The data derived from regression analysis indicate that a family's economic position is an important factor in determining the number of children, and must be given extensive consideration in further research based on our study.

Age at marriage was the next most important variable in relation to fertility, indicating that women marrying later had fewer children even when age and income differences were considered.

Only one of the remaining variables, membership in a specific ethnic group, showed a significant link to fertility. All others had no significant effects on fertility once the economic variables were included. Substantial differences in terms of ethnicity were found in the regression analysis. These differences retain their importance even when factors like age and economic differences are taken into account. Whether a woman is a Sundanese or a Chinese plays an important role in her family size, regardless of other factors, and indicates the importance of underlying value systems in determining childbearing patterns.

It is difficult to summarize briefly the effects of family planning on fertility for the women in this study. Conceptually, family planning has been treated as an intervening variable to distinguish it from such factors as age, education, ethnic background and employment status, so that the effects of these independent variables on family planning use could be examined. This decision was justified when family planning use was included in the regression

analyses, because this factor made no significant contribution when the independent variables had been accounted for.

Our study also contributes insights into family planning practice among the respondents. About 80 percent of respondents had used some family planning method in their married life, and 63 percent were current users of family planning. This is a much higher level of use than has been found for urban areas in other studies of Indonesian fertility patterns which included a wider range of socioeconomic classes. This would imply that the overall rates are lower because upper and middle classes form a relatively small part of the urban population, compared to the poor. This report also provides information about shifting patterns of contraceptive use among the respondents during the childbearing cycle, and also with respect to underlying differences in age and education.

One of the more interesting findings indicates that relatively little shift in terms of method used has taken place among women over 35, but a more important change has taken place among the younger women in the time between their first and current methods. While reliance on traditional methods (mainly rhythm) has been fairly stable among both older and younger women, a shift occurred from folk to modern methods among some younger women. Older women who made any change at all shifted from folk to traditional methods.

In general, the use of traditional methods (rhythm, diaphragm, condom, foam) in this sample of women was an important aspect of family planning, especially among the older and more educated women, while modern methods (pill, IUD, sterilization) were being used more by less educated younger women. When age differences were not considered, modern methods were used by a larger proportion of the more educated than of the less educated. In terms of modern method use, age may play an important role. There are some important implications here regarding the shift to a stage of lower fertility. In this connection, the regular use of modern methods might be considered a more determined commitment to fertility control than the use of less reliable methods, but we have not yet analyzed our data from this point of view.

With respect to the spacing of children, reference has been made to differences in the pace of childbearing by older and younger women. Younger respondents may be having children at a slightly faster rate than the older respondents at comparable age levels. This is perhaps related to the finding that women under 35 had married somewhat earlier than women over 35, for historical reasons which may be specific to these generations. This, in turn, suggests that the final family size of the younger respondents may not be much smaller than that of older respondents.

As has been suggested by earlier discussions of age at marriage and the

age at termination of childbearing, there are some indications that many respondents are feeling the stress of some ambiguous pressures on their family lives which are often reflected in decisions or nondecisions about an additional pregnancy. Some of these ambiguities can perhaps be resolved by direct intervention or through changes in external circumstances, but the task of locating the soft spots at which change would most easily occur is the greatest challenge to the researcher and policymaker.

Our proposal for establishing family planning arisan groups is made with this problem in mind. We suggest the development of independent support groups among women, which would not only have the functions of savings and sociability, but would also help them make and carry out family planning commitments. Our proposal for developing experimental models of family planning arisans is also based on findings in our study about the effectiveness of such groups in attaining cooperative savings goals.

CONCLUSIONS

Family life is central to the lives of individual Indonesians, and family harmony is a major value. In defining this family harmony, the size of the family seems to play an important role. There is an unspoken assumption in Indonesia that a harmonious family unit has a certain size. Consequently, family planning programs which seek to reduce the number of children are attempting to alter the family's balance in crucial ways, and should not be attempted without understanding how reduced fertility can be achieved without threatening the existing values of family harmony.

In Indonesia, both modern and traditional ways of limiting family size could be taught, and their regular use reinforced in small, face-to-face support groups of women. These arisan groups would preserve their traditional functions of savings and sociability which seem to attract more members than either function separately. Experiments would be needed, however, to determine which kinds of family planning methods would be acceptable to women in arisan groups. In addition, since the findings apply only to urban middle-class and lower-middle-class women, programs need to be developed to determine whether the idea of arisan family planning groups would interest women from other class backgrounds and outside urban areas. The single most significant aspect of these arisan groups is their informal nature and the fact that they exist apart from larger and more tightly organized institutions in Indonesian society. If they are to work as family planning support groups, these features must be preserved, and any project to develop family planning arisan groups must pay particular attention to the methods by which informality can be maintained.

Arisan groups could have their greatest impact on the process of change in individual values and attitudes related to family size. A small experimental program to develop a few informal family planning arisans would be the first step in assessing the need for such a program, as well as its future potential.

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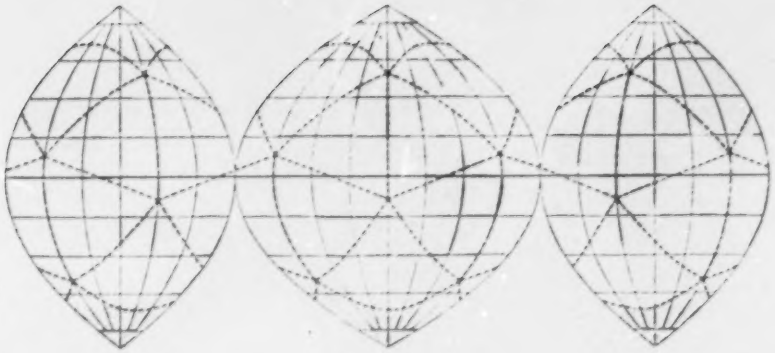

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